LOW VISION WORKSHOP
PROCEEDINGS OF

JULY 26-30, 1976

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FOREWORD

The purpose of this workshop was twofold. First, to provide in-service training to a selected constituency in the area of low vision aids for the legally blind and partially seeing. Secondly, to provide an in-service workshop for this same constituency in the areas of aids and appliances for legally blind and partially seeing students.

This constituency includes teachers, supervisors, administrators and selected personnel who are responsible for the education, habilitation, and rehabilitation of persons with visual impairment.

For expedient reasons the workshop was held during the summer vacation months in Columbus, Ohio. The attendance was outstanding and the evaluation positive.

The evaluation suggested the specific goals were indeed realized, namely current and acceptable techniques in the utilization of low vision aids and aids and appliances.

Finally, the editors would like to acknowledge the cooperation and contributions of all the participants and especially its presenters.

John Saylor, Ph.D.

James A. Schimmoller, M.Ed.

PROCEEDINGS

WORKSHOP

LOW VISION AIDS AND AIDS AND APPLIANCES FOR THE VISUALLY IMPAIRED

JULY 26-30, 1976

RODEWAY INN
COLUMBUS, OHIO

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THE VALUE OF A THOROUGH SCREENING IN LOW VISION SERVICES

LOW VISION PRE-CLINICAL VISIT SCREENING

PROCEDURE FOR SCREENING-- "VISUAL FUNCTIONING IS MORE IMPORTANT THAN VISUAL ACUITY."

1. CASE HISTORY SHOULD INCLUDE
   - A. INFORMATION FROM PARENTS OR TEACHERS IF A CHILD IS TO BE SCREENED
   - B. NEED TO KNOW ONSET OF BLINDNESS
   - C. FAMILY'S VISUAL HISTORY
   - D. PERSON'S LEVEL OF MOTOR DEVELOPMENT TO HELP PINPOINT BRAIN DAMAGE

    E. How much vision he/she and his/her parents think he/she has--bumps into things, can't reach and grasp an object unless at a certain distance.

    F. Social history--peer acceptance, gets along with others well, etc.

    G. School history--class placement, communication medium, Gray's oral test for brain damage

    H. Medical history--medications, prognosis, other physical impairments or medical conditions

    I. Attitude toward child of peers, parents, etc.

    J. Functional visual information

2. Build a rapport

    A. Explain testing procedures

    B. Play game with child of reading flash cards close up-(learning exposure to symbol cards if used)

    C. Explain that aids used may not be ones determined best for him (cosmetic factor)

    D. Have person describe how he sees things

C. Distance Test

    1. Use Feinbloom Distance Chart of N.Y. Lighthouse picture falsh cards

    2. At 5, 8 or 10 feet for children depending upon age and eye condition

    3. Test RE then LE / unaided than aided with present Rx, then aided with low vision aid depending upon results of previous tests unaided.

" To calculate power assume you want the child to reach a Level of 20/50 acuity. Divide the denominator of the acuity (in20/-form) you have taken by the denominator of the desired level and the result is the telescopic power needed to reach a 20/50 acuity level.

example: 20/50 desired 20/200 achieved

$50\overline{)200}$ = 4X power for that child to reach the 20/50 line assuming all other variables are static."

4. This is all done to find if vision can be improved, not to determine actual aid needed!! If one month delay or more getting into clinic then find a usable temporary aid. Reschedule for second session to do this.

   No magnification will hurt the eyes.

D. Near Vision Test

1. Use the N.Y. Lighthouse Near Acuity test card or Near Vision Symbol test card or Feinbloom number chart.

   ***Near Vision test in children does not relate to distance acuity as accomodation plays a large part. As long as he has accomodation to read print use that at any distance and not a magnifier.

   Grades 1-3: 2.5 M or 18 pt.

   Grades 3-12: 2 M or 12 pt. 1 point = 1/72 inch

2. Read or see smallest line posssible holding card at any distance he cares to!!

3. Test RE, LE, Aided, Unaided, L.V. aid
4. Calculate add by:

   Using chart if held at 40 cm. distance. Read Diopters needed to right side of chart

E. Field testing--Tangent Screen

1. Use tangent screen, bright objects, Lumiwand, or any other targets handy. (Penlight or toys work best with children rather than wand and white target.)
2. Normal degrees of field are 90° Temporal
   60° Nasal
   70° Inferior
   50° Superior
3. Student seated from screen at 1 meter, eye level with fixation point on screen (use adjustable chair height and white tape if dot needs to be enlarged)
4. Test one eye at a time.
5. Use wand with a target the student can see easily, from .5mm to 10 mm in size. (Too large a target will give an innacurate, over-enlarged field report)
6. Plot blind spot first found 15-20 degrees temporal from fixation point and about 18 cm. in diameter. Move from non-seeing to seeing as you test and say, "Tell me when you see it."
7. Test rest of field at 8 oblique points into within 20 degrees of center then use a rosette pattern in the central vision area ("Tell me if it ever disappears.")
8. Move target not too fast and not too slowly. 1 second interval.
9. Fake it once in a while by slipping into and out of known

BLIND SPOT TO MAKE SURE HE'S STILL ATTENDING TO YOUR REQUESTS.

10. CONTINUALLY WATCH HIS EYES TO MAKE SURE HE'S STILL FIXATING ON CENTER POINT OF SCREEN.
11. PLOT ANY BLIND SPOTS IN A CROSS PATTERN (+)
12. USE THE FIELD SCREENING PADS TO RECORD.
13. FIELD SCREENING IS IMPORTANT FOR
    A. INDICATING HOW HIS TRAVEL MIGHT BE AFFECTED BY HIS VISUAL FIELD LOSS
    B. LOCATING SCOTOMAS
    C. INDICATING TO OPHTHALMOLOGIST A POSSIBLE NEW COMPLICATION IN EYE PATHOLOGY OR SPEED UP IN OLD.

F. THE FOLLOWING CONSIDERATIONS SHOULD BE GIVEN TO YOUR VISUAL SCREENING PROCESS

1. YOU MAY NEED 2 OR MORE SESSIONS BECAUSE OF TIRED STUDENT OR IF YOU'RE WORKING WITH CHILDREN, DO EACH PHASE AS A GAME ON DIFFERENT DAYS.
2. NYSTAGMUS WILL THROW OFF FIELD IF THE PERSON CAN'T FIXATE WITH ONE EYE ON THE FIXATION POINT OF THE SCREEN. TESTING ACUITY OF INDIVIDUAL WITH NYSTAGMUS WITH BOTH EYES OPEN WILL GIVE INDICATION OF PERSON'S BEST ACUITY.
3. WATCH FOR CHARD MEMORIZATION AFTER THE FIRST EYE HAS BEEN TESTED.

   WATCH FOR A FEAR OF FAILURE IN THE STUDENT.
4. WHEN DOING NEAR POINT SCREENING WATCH FOR REVERSAL PROBLEMS, EXTREMELY HESITANT OR SLOW READING, POOR VOCABULARY, ETC. THIS MAY INDICATE THE NEED FOR CONSULTING A REMEDIAL READING SPECIALIST

Dr. Allyn Uniacke

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LOW VISION

I. What is low vision?

It is reduced central acuity or visual field loss which even with the best optical correction provided by regular lenses still results in visual impairment from a performance standpoint. It is generally considered that 20/70 or poorer visual acuity for the better eye constitutes low vision.

II. Legal definition of blindness

20/200 or worse best corrected visual acuity in the best eye or 20° fields or smaller.

III. Estimates of numbers of partially sighted.

5 - 10 per 1000 are partially sighted

1 per 500 of school aged children.

IV. Visual acuity ranges for successfully helping the low vision patient.

20/600 or better visual acuity - excellent chances of helping patient. 20/2000 or worse - chance of help very poor

20/600 to 20/2000 - Prognosis is less certain.

V. Types of aids most frequently used.

56-60% of all low vision patients are helped by ordinary lenses. Telescopes make up no more than 10% of prescribed aids. Magnifiers make up 20% of aids.

VI. IDENTIFYING THE SUCCESSFUL LOW VISION PATIENT.

68% OF THE LEGALLY BLIND CAN USUALLY BENEFIT FROM A LOW VISION EXAMINATION AND AIDS.

THERE ARE FACTORS WHICH ALLOW SOME PREDICTION AS TO THE CHANCE OF SUCCESS OF A LOW VISION EXAMINATION.

VISUAL ACUITY OF 20/70 TO 20/600, VISION LOSS OF 5 YEARS DURATION (PATIENT MORE LIKELY TO ACCEPT THE FACT OF THE LOSS), HIGH MOTIVATION FOR INDEPENDENCE, FLEXIBILITY, GOOD VISUAL FIELD, THE TYPE OF PATHOLOGY INFLUENCES THE CHANCE FOR SUCCESS, STABILITY OF THE VISUAL ACUITY, AGE - 11 TO 60, AND EDUCATION AND INTELLIGENCE. THESE ARE ALL POSITIVE FACTORS.

THE OPPOSITE OF THE ABOVE FACTORS CAN BE AN INDICATION OF LESS CHANCE FOR A SUCCESSFUL LOW VISION EXAMINATION.

VII. PSYCHOLOGICAL FACTORS

THE PATIENT, THE PRACTITIONER, AND THE TEACHERS AND RESOURCE PEOPLE MUST ALL HAVE A POSITIVE OUTLOOK. EACH SHOULD ATTEMPT TO CONVEY THE MESSAGE - "YOU HAVE USEABLE VISION AND I AM HERE TO ASSIST YOU IN USING IT TO GREATER ADVANTAGE!"

VIII. HOW YOU AND THE LOW VISION SPECIALIST CAN ASSIST EACH OTHER IN PROVIDING MORE COMPLETE VISUAL CARE.

WHEN A PATIENT IS REFERRED FOR AN EXAMINATION A LETTER EXPLAINING THE VISUAL NEEDS OF THE PATIENT AND SAMPLE READING MATERIAL IF APPROPRIATE, CLASSROOM OBSERVATION, ANY KNOWN MEDICAL AND VISUAL HISTORY, FAMILY HISTORY OF CONCERN OR LACK OF CONCERN, ETC. WOULD BE HIGHLY BENEFICIAL.

You should expect to receive or you should request a statement of findings and recommendations. Special seating location, special lighting, aids recommended and their uses. How is the prescription to be used, for near work only? How are the aids intended to be used? What performance with the aids was achieved during the examination? When should the patient be seen again? What training in the use of the aids is recommended or required?

IX. The low vision examination.

Includes detailed case history; psychological factors; analysis of present prescription and aids and previous low vision examinations; a refraction; pathology evaluation including glaucoma check, visual fields, etc.; evaluation of telescopic and microscopic and non optical aids; and training in use of aids.

See Handout on Low Vision Examination for more detail.

X. Visual Acuity.

For normally sighted patients usually tested at 20 ft. but for the partially sighted usually tested at 10 ft. or even 5 ft.

10/100 says the examination was performed at 10 ft. and the patient could identify the 100 size letter. This visual acuity is equivalent to 20/200. This can be approximately determined to mean that a normal 20/20 patient can stand 200 ft. away from the 200 size letter and still see it, while the 20/200 patient must stand at 20 ft. to see the same 200 size letter.

Visual acuity tested in the reading range can be expressed in Jaeger numbers but the letter size varies from one chart to the next or it can be expressed in Point type numbers where 1 point = 1/72 of an inch. Newspaper size print is 7 point which is approximately Jaeger 4, which requires 20/40 distance visual acuity.

XI. Magnification

Its purpose is to increase retinal image size. There are four basic ways of providing magnification.

1. Relative size magnification - large print books, make the object physically larger.

2. Angular magnification - usually considered with telescopes and magnifiers.

3. Relative distance magnification - reducing the distance between the object and the eye. This can be done by the patient accommodating, myopes of high power removing their glasses for reading, or lenses. The standard reference distance is 25 cm.

Magn. (M) = F/4. F = dioptric power of lens. An 8 D lens provides 2 times (2X) magnification, a 16 D lens provides 4 X magnification M = 16/4 = 4 X. A 5 X magnification has a dioptric power of 20 D. The reading material must be held approximately 5 cm from a 20 D lens 100/20 D = 5 cm. Reading material must be held about 6.25 cm from a 16 D lens - 100/16 = 6.25 cm.

XII. MAGNIFIERS AND BINOCULAR VISION.

MOST MAGNIFIERS AND MICROSCOPIC LENSES REQUIRE USING ONLY ONE EYE FOR READING NOT TWO EYES.

XIII. SOURCES OF AIDS AND RECOMMENDED REFERENCE SOURCES.

SEE HANDOUT - LOW VISION AIDS - DR. UNIACKE.

XIV. CLASSIFICATION OF AIDS AND DEMONSTRATED AIDS.

A. TELESCOPES
    1. HAND HELD.
    2. CLIP-ON.
    3. CUSTOM DESIGNED
B. NEAR POINT TELESCOPES
C. NEAR VISION AIDS
    1. HAND HELD-POCKET MAGNIFIERS AND LARGER
    2. FIXED FOCUS
    3. SELF-ILLUMINATED
    4. CLIP-ON
    5. HEAD BORNE
    6. MICROSCOPES
D. SEE HANDOUT - LOW VISION AIDS

XV. DEMONSTRATION OF CALIFORNIA LOW VISION KIT

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A SYSTEMATIC OUTLINE FOR THE EVALUATION AND TRAINING OF PERCEPTUALLY HANDICAPPED LOW VISION CHILDREN

1. INFORMATION NECESSARY FROM PROFESSIONAL VISION EXAM

A. VISUAL ACUITY

1. MOST VISION EXAMINATIONS INCLUDE ONLY THE SNELLEN VISUAL ACUITY. FOR THE COMPLETE EVALUATION OF VISUAL ACUITY IT IS REALLY NECESSARY TO OBTAIN MORE THAN ONE MEASURE OF VISUAL ACUITY. OTHER METHODS ARE THE FEINBLOOM AND THE LANDOLT WHICH PROVIDE MORE REFINED MEASUREMENT FOR LOW VISION AND DETERMINE THE PROBABLE DISTANCE OF BEST ACUITY.

B. VISUAL FIELDS

1. FIELDS SHOULD BE DONE WITH A MINIMUM OF TWO ISOPTERS, IN ORDER TO GAIN ESSENTIAL INFORMATION ON DEPPESSED AREAS OF VISION IN ADDITION TO THE ABSOLUTE BLIND SPOTS.

C. MEDICATIONS

1. MANY MEDICATIONS HAVE AN EFFECT ON THE VISUAL SYSTEM. MEDICATIONS USED BY DIABETICS AND SOME TRANQUILIZERS ARE ASSOCIATED WITH FLUCTUATIONS IN VISION.

D. GLASSES

1. Minute attention to the glasses and aids used by low vision persons would also be helpful in that frequently the glasses are old and perhaps an inaccurate prescription. One of the characteristics of aphakic lenses is their frequent need for adjustment.

II. INITIAL EVALUATION BY THE TEACHER OR MOBILITY SPECIALIST

A. Additional individual data should contain attention to literacy, attitudes, hope for return of vision, role in family, uses of vision at the present time, and aspirations for the use of vision.

B. Low vision cases have visual anomalies of which they may or may not be aware. These do not appear in the usual examination approaches. They include extinction, fluctuation phosphenes, floaters, photophobia, absence or distortion of color perception, distortion of spacial perception, impaired visual memory, impaired visual retention, irregular head posture associated with loss of visual field, and pseudofoveas also associated with field defects.

C. Subjective field examination is an attempt to form approximations of how the low vision case sees or understands his/her blind spots, or areas of depressed vision. The techniques most useful in subjective fields and anomalies examinations are drawing, counting and identifying prearranged objects, setting of the clock, and copying figures which show perspective.

III. NEAR VISION WORK-UP

A. The teacher should repeat the testing of visual acuity with the Landolt, Stimson, and the Feinbloom test letters. This should be done because for a limited number of cases, this phase of assessment can further identify the preferred viewing distance.

B. This is followed by determination of optimum lighting for reading purposes.

C. Puzzles and games are then used for figure-ground evaluation and form discrimination. Picture puzzles and pencil mazes can be used for scan and search and visual logic.

D. Color perception should be evaluated. The normal tests for color vision may not be and probably are not appropriate for testing of low vision children. Even though color may not be perceived in the normal sense, the child can usually differentiate colors on the basis of comparison in tonal differences, and from differences in reflectivity.

NOTE: Particular attention should be given to the use which a low vision child makes of his/her hands during assessment. There may be some indication that the hands are used to provide color contrast, to provide a movable mask to improve form perception, to provide kinesthetic verification of distance estimation, as well as to provide a subtle check on acuity and fields.

E. The near vision work up should also include the reading of maps, menus, magazines, bus schedules, labels, etc.

IV. DISTANCE VISION WORK-UP

A. INDOOR

1. Before attention is turned to the detection or identification of objects, the teacher should allow the low vision child to give feedback on the size and intensity of glare areas which can be perceived. Glare areas are the most easily seen and provide the quickest reference to the presence or absence of objects in the environment.
2. The extent to which the child depends on contrast and at what distance contrast is detected should be determined. Here attention should be given to background, size and color of the target.
3. Observe for the presence and nature of scanning. The extent to which it is organized into a method is extremely important in later training.
4. The assessment or perception of motion should take the following three forms:
   - a. Detection of motion of other people
   - b. Detection of stationary things while the child is moving
   - c. Detection of moving things while the child is moving.

B. OUTDOOR

1. Assessment techniques have been devised by James L. Doyle of the Western Blind Rehab. Center for detection of collision courses, estimation of relative distances, depth perception, and estimation of angle of travel and speed. These are all done with the low vision child:

    A. STANDING STILL AND THE TARGET PERSON MOVING ALONG A VARIETY OF ANGLES AND PATHWAYS.
    B. THE LOW VISION CHILD MOVING ALONG A VARIETY OF ANGLES AND THE TARGET STANDING STILL.
    C. AND WITH BOTH MOVING ALONG A VARIETY OF ANGLES AND PATHWAYS WHICH NEARLY INTERCEPT THE CHILD AND THE TARGET.

V. PERCEPTUAL MOBILITY TRAINING

THE CHILD SHOULD UNDERSTAND HIS/HER RELATIONSHIP TO OBJECTS IN SPACE. FOR THIS REASON, THE TRAINING PROCEDURES DESCRIBED HERE ARE IN THE AREA OF MOBILITY TRAINING. THE SKILLS LEARNED BY THIS METHOD CAN THEN BE USED TO HELP THE CHILD LEARN TO READ. ALL THESE ACTIVITIES SHOULD BE DONE WITHOUT THE USE OF MAGNIFIERS AND OTHER VISUAL AIDS (EXCEPT OF COURSE THE CHILD'S GLASSES). THE REASON FOR THIS IS THAT MAGNIFIERS TEND TO DISTORT PERCEPTIONS OF DEPTH AND DISTANCE. ONCE THE CHILD UNDERSTANDS THE RELATIONSHIP OF HIS/HER BODY TO THE SPACE AROUND IT, THEN MAGNIFIERS CAN BE USED TO THEIR GREATEST EFFICIENCY.

A. FIXATION OF DISTANT OBJECTS

1. THE LOW VISION CHILD PRACTICES DETECTING AND DISCRIMINATING TARGETS WHICH ARE VARIED ACCORDING TO THE FOLLOWING VISIBILITY FACTORS:
    A. BRIGHTNESS LEVEL
    B. BRIGHTNESS-CONTRAST
    C. SIZE
    D. VIEWING TIME

   AT A DISTANCE OF ONE METER OR GREATER, SLOWLY REDUCING THE VISIBILITY MAGNITUDE IN ALL AREAS. BOTH THE CHILD

AND THE TARGET ARE STATIONARY. THE TEACHER WATCHES THE CHILD FOR ECCENTRIC GAZE WHICH MIGHT INDICATE THE DEVELOPMENT OF A PSEUDOFOVEA, AND ENCOURAGES THE USE OF THE PSEUDOFOVEA BY GIVING FEEDBACK FOR CORRECTION OF DRIFT OF GAZE. THE TARGETS SHOULD BE TWO-DIMENSIONAL EASILY RECOGNISABLE GEOMETRIC FORMS, AND OF VARYING SIZE AND COLOR.

2. THE CHILD IS ALLOWED TO CHOOSE HIS/HER OWN DISTANCE FOR VIEWING IN ORDER TO DETECT AND IDENTIFY STATIONARY TARGETS. THIS WILL INDICATE AGAIN TO THE TEACHER WHERE THE CHILD'S AREA OF PREFERRED VIEWING IS.
3. A CHILD WHO IS FOUND TO HAVE A PHENOMENA OF EXTINCTION OR FLUCTUATION IS TAUGHT TO UTILIZE BLINKING IN ORDER TO STABILIZE VISION RATHER THAN RAPID HEAD MOVEMENTS.

B. PURSUIT

1. THE CHILD IS SEATED AND THE TEACHER PRESENTS A MOVING TARGET FOR TETECTION AND IDENTIFICATION. THE FOLLOWING ORDER SHOULD BE USED IN THE PRESENTATION:
    A. MOVEMENT IN A SINGLE DIRECTION
    B. HORIZONTAL OSCILLATING MOVEMENT
    C. VERTICAL OSCILLATING MOVEMENT
    D. ROTARY MOVEMENT
    E. IRREGULAR MOVEMENT
2. THE CHILD IS THEN ALLOWED TO POSITION HIMSELF/HERSELF SO THAT THE TARGET WILL BE PRESENTED WITHIN THE CHILD'S AREA OF PREFERRED VIEWING.
3. THE TARGET IS THEN PRESENTED UNEXPECTEDLY BY THE TEACHER.

C. ACCOMMODATIVE FACILITY AND ACCURACY

1. UTILIZING TARGETS WITH THE FOUR PREVIOUSLY MENTIONED VARIABLES AND THE CHILD AT HIS/HER AREA OF PREFERRED VIEWING, THE TEACHER INSTRUCTS THE CHILD THAT OBJECTS CAN BEST BE IDENTIFIED FROM A CERTAIN BAND OF DISTANCE.
2. THE AREA OF PREFERRED VIEWING IS EXTENDED AS MUCH AS POSSIBLE BY HAVING THE CHILD GIVE MAXIMUM RANGE FOR DETECTION OF THE TARGET, WHEN THE TARGET IS BOTH APPROACHING AND RECEDING.
3. THE STATIONARY CHILD SHIFTS HIS/HER GAZE FROM THE NEAR POINT OF THE AREA OF PREFERRED VIEWING TO THE FAR POINT OF THE AREA OF PREFERRED VIEWING. THE SPAN BETWEEN THE TARGETS IS INCREASED FROM THE ORIGINAL MIDPOINT BY THE TEACHER.

D. LIGHT ADAPTATION

1. FOR THE CHILDREN WHO EXPERIENCE DAZZLING BECAUSE OF FLOATERS AND CORNEAL OPACITIES OR CLOUDY VITREOUS, THE TEACHER INSTRUCTS THEM IN METHODS OF REDUCING GLARE. THESE METHODS INCLUDE, TURNING THE HEAD AWAY FROM THE LIGHT, SHIELDING THE EYES WITH A HAND OR HAT, USE OF DARK GLASSES OR GLASSES WITH SIDE SHIELDS, OR OTHER TECHNIQUES TO REDUCE LIGHT INTENSITY.

E. VISUAL PERCEPTION AND VISUAL RECOGNITION OF FORM

1. THE TEACHER PRESENTS HUE AREAS TO THE CHILD TO TRAIN HIM/HER IN THE VISIBILITY FACTORS AND IN DETECTION OF DIFFERENCES IN HUE AREAS AND ESTIMATION OF THE NATURE

OF HUE AREAS. GENERALLY, THE LOWER THE ACUITY, THE GREATER THE CONTRAST DIFFERENCE WILL HAVE TO BE. THIS WILL NOT INVOLVE TARGETS, BUT WILL INVOLVE MANIPULATION OF THE MATERIALS USED FOR TARGET BACKGROUND, ARRANGED SO THAT THE CHILD MUST DISTINGUISH WHICH IS DARKER AND WHICH IS LIGHTER. THE DIFFERENCES BETWEEN THE TARGET HUE AND THE BACKGROUND HUE ARE THEN GRADUALLY REDUCED.

2. THE CHILD IS THEN EXPOSED TO HUE AREAS INDOORS, UTILIZING CONTRAST IN WALKING SURFACES AND COLOR OF WALLS. THE CHILD IS ASKED TO DISTINGUISH LIGHTER AND DARKER, AND ALIGNMENT OF BOUNDARIES BETWEEN HUE AREAS. THE TEACHER SHOULD EMPHASIZE SCANNING NOT ONLY BORDERS BETWEEN HUE AREAS, BUT ENVIRONMENT ADJACENT TO PATHWAYS. THIS MIGHT BE A GOOD POINT TO INTRODUCE THE CANE, INORDER THAT THE CHILD CAN USE SCANNING FOR OTHER THAN PHYSICAL PROTECTION.
3. THE CHILD IS EXPOSED TO HUE AREAS OUT OF DOORS IN AN ENVIRONMENT WHICH HAS NO SHARP BOUNDARIES TO ITS HUE AREAS (NO SIDEWALKS, BUILDINGS OR ROADS). THE CHILD IS GIVEN ASSISTANCE IN NEGOTIATING AREAS SUCH AS PARKS, BEACHES, AND WOODLANDS, AND IS ASKED TO DISTINGUISH HUE AREAS TO WHICH HE/SHE IS EXPOSED IN TERMS OF LIGHTER AND DARKER.
4. THE CHILD IS EXPOSED TO HUE AREAS WHICH CONTAIN BOUNDARIES WHICH ARE STRAIGHT-LINE AND READILY DETECTABLE, BUT WHICH INVOLVE SHADOWS. THE CHILD IS ASKED TO DETECT DIFFERENCES IN HUE AREAS SUCH AS SIDEWALKS, CURBS, BUILDINGS, PEDESTRIAN WALKS, AND DOORWAYS IN TERMS OF LIGHTER OR DARKER.

5. The child is led to detect two targets as discreet, unidentifiable objects. Once the child is able to make this judgment, have him/her determine in what ways the two targets are different. This should be set up first in the classroom using three-dimensional targets and then progressing to general indoor and outdoor experiences. The teacher should start with targets having gross distinctive features and progress to targets having more subtle differences. Proceed then to discrimination between automobiles in the parking lot, etc.
6. The child is allowed to detect unidentified targets outdoors, and sort out the logical alternatives to identify the target. The student is allowed to utilize all visable environmental cues in choosing these alternatives.
7. The child is encouraged to identify the target from several alternatives to the targets identity, based on distinctive features and incoporating the visibility factors. This is done with familiar targets and then with unfamiliar targets both indoors and out.
8. The preceding instruction is repeated with the child at different perspectives to the target, and then with movement of the child in relation to the target. This gives a view from different sides of the target and allows the child to generalize in identifying the target. The movement of the child adds the effect of transformation to the already varied perception the child has of the target.

F. VISUAL RECALL OF FORM

1. THE TEACHER PROVIDES THE CHILD WITH EXPERIENCE IN VIEWING IDENTIFIABLE TARGETS AS A SPECTATOR OR PARTICIPIENT IN RECREATIONAL ACTIVITIES. USABLE TARGETS MAY BE ATHLETIC EVENTS, CHILDREN PLAYING IN THE PARK, THEATER, OR ANY SIMILAR EVENT WHICH IS NOT CRITICAL TO MOBILITY, BUT WILL DEVELOP A SENSE OF REWARD IN THE USE OF DISTANCE VISION. IT IS PRESUMED THAT THIS WILL REINFORCE THE CHILD'S RECALL OF VISUAL BACKGROUND, DISTINCTIVE FEATURES, AND MOVEMENTS OF TARGETS.

G. VISUAL PERCEPTION OF SPACE AND DIRECTION

1. THE CHILD IS SEATED AND THE TEACHER PRESENTS A STATIONARY TARGET. THE CHILD DETERMINES THE DIRECTION AND PROVIDES FEEDBACK TO THE TEACHER BY POINTING OR SETTING AN INDICATOR. ACCURACY IS NOTED AND FEEDBACK IS GIVEN BY THE TEACHER TO THE CHILD FOR CORRECTION.
2. THE TEACHER DEVELOPS A VISIBLE GUIDELINE IN THE FORM OF A PAINTED LINE, TAPE, OR ROPE WHICH CAN BE PLACED ON THE FLOOR, NEAR THE FLOOR, WAIST LEVEL, AND HEAD LEVEL. THE CHILD IS INSTRUCTED TO WALK PARALLEL TO THIS LINE OR TARGET, MAINTAINING VARIOUS DISTANCES FROM THE TARGET. THE CHILD SHOULD BE TAUGHT TO DO THIS WITHOUT UNGAINLY HEAD MOVEMENTS, POSTURE, OR GAIT.

3. THE TEACHER DEVELOPS A GROUP OF TARGETS WHICH CAN BE SET UP AT THE VARIOUS LEVELS MENTIONED ABOVE. THE TARGETS ARE SET UP IN A LINEAR RELATIONSHIP AND THE CHILD IS ASKED TO MOVE FROM TARGET TO TARGET. THEY ARE LATER SET UP IN A ZIGZAG RELATIONSHIP AND THE INTERVALS BETWEEN THE TARGETS ARE INCREASED TO A MAXIMUM PERCEIVABLE BY THE CHILD.
4. THE TEACHER SERVES AS THE TARGET AND THE CHILD IS ASKED TO FOLLOW IN A FOLLOW THE LEADER TYPE EXERCISE. THE CHILD MAINTAINS INCREASINGLY DIFFICULT DISTANCES. THE TEACHER'S TURNS SHOULD BE VARY SLIGHT AT FIRST, GRADUALLY INCREASING TO 90 DEGREES. THE CHILD WALKS SHOULDER TO SHOULDER OR SLIGHTLY BEHIND THE TEACHER, AS THE TEACHER PERFORMS PROGRESSIVELY MORE ACUTE TURNS.
5. THE CHILD REMAINS STATIONARY AND ESTIMATES GEOMETRIC FIGURES BEING PACED OUT AT VARIOUS DISTANCES BY THE TEACHER. IN ORDER TO COMPENSATE FOR THE CHILD COUNTING TURNS, USE THREE TURNS FOR ALL GEOMETRIC FIGURES. THIS WILL REQUIRE THAT SOME FIGURES BE LEFT WITH AN OPEN SIDE, BUT OTHER FIGURES BE COMPLETELY CLOSED OR HAVE ONE SIDE REPEATED. THE CHILD SHOULD BE TOLD THIS BEFORE BEGINNING THE EXERCISE. THE CHILD SHOULD BE ASKED IF IT IS A TWO-SIDED, THREE-SIDED, FOUR-SIDED, OR FIVE-SIDED FIGURE. THIS SHOULD BE REPEATED INCREASING THE DISTANCE AND/OR DECREASING THE SIZE OF THE PATTERN.

6. THE CHILD REMAINS STATIONARY AND OBSERVES TWO STATIONARY TARGETS TO DETERMINE WHICH ONE IS AT A GREATER DISTANCE. THERE SHOULD BE VARIATIONS IN TARGETS AND DISTANCE BETWEEN THE CHILD AND THE NEAREST TARGET. THIS MAY BE DONE INDOORS AND OUTDOORS USING THE SAME TARGETS.
7. THE CHILD REMAINS STATIONARY AND ESTIMATES THE NEARER OF THE HUMAN TARGETS OF TWO HUMAN TARGETS CROSSING IN FRONT OF HIM/HER IN NEAR PARALLEL COURSES AT INCREASING DISTANCES FROM THE CHILD.
8. THE CHILD REMAINS STATIONARY AND ESTIMATES THE DIRECTION LIKELIHOOD OF COLLISION WITH A HUMAN TARGET MOVING IN AN INTERCEPTING PATHWAY.
9. THE CHILD MOVES THROUGH ROUTES OF TRAVEL OF INCREASING VISUAL AND GEOGRAPHICAL COMPLEXITY. THE TEACHER MAY HAVE THE CHILD SKETCH A MAP OF ROUTES AS THEY ARE COMPLETED, TO WHICH THE TEACHER PROVIDES IMMEDIATE FEEDBACK.

H. VISUAL MONITORING OF BODY MOVEMENT

1. THE TEACHER SHOULD NOTE WHETHER THE CHILD MAKES DELIBERATE GESTURES WHICH BRING THE HANDS IN THE FIELD OF VIEW. THIS MAY BE A MEANS BY WHICH THE CHILD IS ABLE TO CHECK ON THE STATE OF HIS VISUAL FIELDS OR ACUITY. IF THESE GESTURES ARE GROTESQUE OR UNGAINLY, THE CHILD SHOULD BE INSTRUCTED IN USING GESTURES OR DEVICES WHICH WILL HAVE THE SAME EFFECT, BUT WILL NOT BE DISTRACTING. IT IS NOT ADVISABLE TO TRY TO BREAK THIS HABIT PATTERN. SUBSTITUTION IS MUCH MORE DESIRABLE SINCE IT ALLOWS THE

MAINTAINANCE OF A PERSON'S STATE OF SECURITY.

2. THE TEACHER PROVIDES THE CHILD WITH EXPERIENCE IN REACHING OUT TO TOUCH VARIOUS TARGETS DESIGNED TO ENCOMPASS ALL THE VISIBILITY FACTORS. THIS IS A NECESSARY EXERCISE TO ENHANCE BODY IMAGE AND CONFIRM DEPTH PERCEPTION. THE CHILD SHOULD ALSO BE ENCOURAGED TO UTILIZE THE CANE IN SIMILAR FASHION TO CONFIRM DEPTH PERCEPTION.

Martha Coleman

Mrs. Coleman teaches Activities of Daily Living at the Vision Center and is presently supervisor of the Homebound Program at the Center. She is a graduate of the Home Economics Program at The Ohio State University, and has Special Education certification in TMR. She has worked with trainable retardates as a preschool and homebound teacher, and started a preschool for visually handicapped children. She has been with the Vision Center for ten years.

Barbara Muller

Ms. Muller teaches Activities of Daily Living at the Vision Center. She is a graduate of the Home Economics Program at The Ohio State University, and has done substitute teaching in this area. She spent two years in the Peace Corps, teaching nutrition to nurses' aides. Ms. Muller has worked at the Vision Center for one year.

TECHNIQUES OF DAILY LIVING FOR THE VISUALLY HANDICAPPED

INDEPENDENT HOUSEKEEPING SKILLS

Questions: (How many are elementary teachers? How many are high school teachers? What are the goals of the blind and visually handicapped children in school?

Answer: 1. Academics, such as reading, writing, mathematics and such.

2. Learning to live independently in society by developing useful skills.

In the field of rehabilitation we call these skills techniques of daily living. These are the skills most of us learn by observing others and by trial and error. Skills such as tying one's shoes, dialing a telephone, putting on make-up, washing dishes and preparing a meal.

The child that has a vision problem cannot observe others performing skills, so it is more difficult for the child to learn the skill.

Tasks need to be broken down into individual steps. Simple tasks should be taught first, to be followed by the more complicated tasks. Examples of this are: learning to eat finger foods to be followed by eating foods with a spoon such as custards and applesauce; then the child learns to eat with a fork. During this presentation, we will be discussing methods of teaching a task by breaking it down step by step, and showing you some of the special equipment that can help the visually handicapped perform more efficiently.

Teachers need to encourage parents to allow their children to do things. It is better to spend the time teaching them skills of independence than doing things for them all their lives. The parent that does not allow the child to do things for himself is really hindering the child's development.

Living can be a learning situation, or it can be a vegetating situation. The classroom teacher is constantly being challenged to motivate the visually handicapped children so that they want to improve their skills and learn new ones. This brings up the story of the child who never learned to talk. The mother was extremely upset, because this child, age three or four, never talked. He was perfectly happy and never conversed with anyone. One day, she sat down some very lumpy cereal for the child to eat and he said, "This cereal is terrible." The mother became very excited that he was talking, and she said, "Why have you never talked before?" The child's answer was, "Everything has been satisfactory up until now." Sometimes, when things are not so satisfactory, children are motivated to do things on their own. Barbara and I are going to discuss several different areas in the techniques of daily living field. Right now, I'm going to discuss some of the equipment and suggestions and things in the communications area. A resource list is being passed out for everyone. Barbara and I will be referring to this list.

Braille is the written communication for the visually handicapped. The Roughness Discrimination Test is a standardized test to help determine the child's readiness for learning braille. This test consists of 65 cards, each having four squares of a rough surface; three are similar, and one is different. The child is asked to tell which is different. The test is useful in testing for braille reading readiness. I

HAVE USED THIS TEST WITH SOME ADULTS WHO HAVE DIABETES AND, CONSEQUENTLY, HAVE POOR SENSITIVITY. IT DOES GIVE A GOOD IDEA OF THE SENSITIVITY, BUT IT DOES NOT TEST MOTIVATION AND, IN MY ADULTS, I FIND THAT A PERSON MAY BE EXTREMELY MOTIVATED AND CAN OVERCOME SOME OF THE INSENSITIVITY THAT THEY MIGHT HAVE.

IN THE CASE OF THE OLDER PERSON THAT BECOMES BLIND, IT IS SOMETIMES DECIDED THAT BRAILLE WOULD NOT BE PARTICULARLY USEFUL TO THEM. ONE OF THE THINGS THAT CAN BE SUBSTITUTED IS A TALKING BOOK MACHINE. A PERSON CAN GET MOST READING MATERIAL THAT HE WOULD BE WANTING. BRAILLE MAY NOT BE HELPFUL FOR CORRESPONDING WITH OTHER PEOPLE SINCE THE PERSON THAT THE BLIND PERSON WISHES TO CORRESPOND WITH MUST KNOW BRAILLE, BE ABLE TO WRITE IT AS WELL AS READ IT, AND MOST OF THE BLIND PERSON'S FRIENDS WOULD NOT HAVE THIS SKILL. BRAILLE IS MOST USEFUL FOR THE OLDER PERSON FOR SELF-COMMUNICATION - KEEPING NAMES, ADDRESSES, TELEPHONE NUMBERS, WRITING DOWN RECIPES - THINGS LIKE THIS. MANY TIMES, THE TAPE RECORDER IS A GOOD SUBSTITUTE FOR THIS.

IT TAKES A LONG TIME FOR THE ADULT TO LEARN BRAILLE IN ORDER TO READ A BOOK. THE CHILD LEARNS BRAILLE AS HE LEARNS HIS OTHER READING AND WRITING SKILLS AND THEY ADVANCE AT THE RATE THAT THE CHILD IS PROGRESSING. WHEN I DISCUSS BRAILLE WITH AN ADULT, IT IS NECESSARY TO GET HIM TO SEE THAT THE MATERIALS THAT ARE WRITTEN ARE WRITTEN IN GRADE 11 BRAILLE. WHEN HE IS LEARNING BRAILLE, HE IS GOING BACK TO THE ALPHABET AND LEARNING HIS BRAILLE LETTERS, AND HE HAS TO DEVELOP THE sensitivity and the ability to pick up the configurations of the braille letters tactilely and then read the words. This progresses rather slowly, depending on the motivation and the sensitivity. The adult can become very discouraged.

The Braille Series 1960: Books I, II, & III: is a set, both braille and print, which make up an introduction to braille, starting with the braille alphabet and progressing through Grade II braille. It's particularly good in that it is a self-study course. The parent of a blind child could use this to learn braille when his child is learning braille. It is not for young children but could be introduced at possible junior high school level. These beginning books, both I and part of book II, use the large dots, which help in tactile discrimination. Series is available from the American Printing House. Cost: Braille - less than $2.00; print - about $4.50 each.

Here is the Perkins braille writer that writes in large dots. We use this especially with our blind adults who are having tactile discrimination problems. It is a useful tool. This is available from Howe Press, where the regular braille writers may be secured. The last price that I know of was around $180., although this could have increased by now. Also, this is a large dot slate and stylus. Here again, the person who is having tactile discrimination problems does have this tool available. With many of my adults, I use both the large dot writer and the large dot slate and stylus. Sometimes, I find that an adult may never use regular size dots. This inability would make it impossible for the person to read regular printed materials, but, at least, they can communicate with themselves. The large dot slate and stylus is also available from Howe Press.

To teach the blind child handwriting, printed letters and script, he needs to start at an early age to develop concepts of circles, straight lines, slanted lines. One of the good ways of doing this is having the child do circles and triangles and straight lines and slanted lines in sand. From this, he will acquire the skill that he needs to have in order to later on transfer it to writing letters. Play dough is also useful. Raised letters that have been done out of string can be very helpful. They can be thermaformed. These would enable the child to actually see what the letter that is going to be printing on a page is supposed to look like. Wooden or plastic letters are also very helpful. The Sewell board is available for helping the child write with a pen or pencil. This board is rubber and has a piece of plastic over the top of it. When one writes on it with a blunt instrument like a pen, the plastic surface becomes rough, and one can actually feel the letter that one has made. Also, the little pad that you buy in the dime store for children to play with - it has a plastic sheet on which you write and you pull up the sheet to erase what you have written - can also be used. You can make a simple board by using a large sheet of corrugated cardboard and a sheet of aluminum foil placed over this piece of cardboard. Use a worn out ball point pen to write with. The child will be able to feel what he is actually writing with his pen. Learning to write, either script or cursive writing, is a slow process, but teaching a child who has some coordination to write his own name can be very rewarding. The

CHILD THAT DOESN'T LEARN TO WRITE HIS OWN NAME IS PROBABLY GOING TO HAVE TO TAKE A LOT OF TEASING THROUGHOUT HIS LIFE. I FIND THAT, WITH MY ADULTS, IT IS VERY REWARDING TO BE ABLE TO SIGN YOUR OWN CHECKS. THE SEWELL BOARD IS AVAILABLE FROM THE AMERICAN FOUNDATION FOR THE BLIND.

THE MARX WRITING BOARD IS A CLIPBOARD THAT HAS A METAL GUIDE SO THAT YOU WRITE IN BETWEEN THE TWO METAL BARS. THE METAL GUIDE AT THE LEFT SIDE OF THE BOARD SERVES TO LET THE WRITING BARS DROP DOWN. THERE IS ALSO A SMALL BAR THAT SLIDES ACROSS THE METAL GUIDES SO THAT THE PERSON CAN STOP AT ANY TIME AND MARK WHERE HE HAS WRITTEN. MOST OF MY ADULTS FIND THIS BOARD EXTREMELY USEFUL. THIS WAY, THEY DO NOT WRITE OVER THE TOP OF THEIR OTHER WRITING. IF YOU HAD GOOD WRITING SKILLS BEFORE YOU LOST YOUR SIGHT, YOU PROBABLY WILL BE ABLE TO WRITE, BUT YOU HAVE NO IDEA WHERE YOU HAVE WRITTEN, AND YOU CANNOT PROGRESS DOWN A PAGE VERY WELL WITHOUT LAPPING OVER OR GOING A LITTLE CROOKED. THIS GUIDE DOES HELP YOU TO WRITE STRAIGHT LINES. YOU DO HAVE TO WRITE RATHER STRAIGHT, HOLDING YOUR PEN RATHER STRAIGHT UP AND DOWN, IN ORDER TO GET THE TOPS OF THE LETTERS AND THE TAILS ON THE LOWER LETTERS IN. THIS WRITING BOARD IS AVAILABLE FROM THE AMERICAN FOUNDATION FOR THE BLIND. THIS IS A LITTLE INEXPENSIVE WRITING BOARD. A LADY SELLS THEM, NOT TO MAKE MONEY, JUST SO THAT PEOPLE HAVE SOMETHING TO USE. IT IS MADE OUT OF A FIBERBOARD, AND AN INDUSTRIAL ARTS CLASS IN HER SMALL TOWN IN MARYLAND CUTS THEM OUT FOR HER, AND THEN SHE ASSEMBLES THEM, PUTTING THE HINGES AND ELASTIC CORDS IN PLACE - THE CORD DOES GIVE A LITTLE BIT WHEN YOU ARE TRYING TO PUT THE TAILS ON THE LOWER LETTERS, LIKE THE Y'S AND THE G'S. IT IS QUITE USEFUL - NOT PARTICULARLY GOOD FOR THE

YOUNG PERSON JUST LEARNING TO WRITE, BUT FOR THE PERSON WHO HAS ALWAYS WRITTEN. THERE IS A LITTLE BEAD ON IT, WHICH YOU SLIDE ACROSS EACH TIME YOU'VE WRITTEN A LINE AND, THAT WAY, YOU KNOW THAT THE LINE ALREADY HAS BEEN USED. THE ADDRESS IS ON YOUR RESOURCE PAGE. IF YOU DO NOT HAVE SOME SORT OF WRITING BOARD AROUND, AND YOU DO NEED TO WRITE SOMETHING DOWN, YOU CAN TAKE A PIECE OF PAPER AND, STARTING AT THE BOTTOM, SIMPLY FOLD THREE-QUARTER INCH FOLDS ALL THE WAY UP; THEN YOU CAN WRITE ON IT AS YOU UNFOLD IT. THE FOLD SERVES AS A GUIDE.

THIS IS A RAISED LINE PAPER FOR THE BLIND PERSON TO WRITE ON. IT IS AVAILABLE FROM THE AMERICAN PRINTING HOUSE. ALSO, THIS HEAVY LINED PAPER - THE LINES ARE VERY BLACK AND THE VISUALLY HANDICAPPED PERSON, THE PERSON WHO HAS SOME VISION, CAN SEE THESE HEAVY LINES, AND CONSEQUENTLY, WRITE ON THEM.

THE FELT-TIPPED PENS COME WITH A VARIETY OF WIDTH POINTS, AND THIS TYPE OF PEN DOES ALLOW THE PARTIALLY SIGHTED PERSON TO WRITE BOLD LETTERS SO THAT HE CAN SEE WHAT HE IS WRITING. EXAMPLES OF SCRIPT AND PRINTED LETTERS ARE AVAILABLE FROM THE AMERICAN PRINTING HOUSE.

TELLING-TIME: AN ALARM CLOCK IN THE SCHOOLROOM WOULD BE A GOOD PIECE OF EQUIPMENT. THE CHILD CAN LEARN TO TELL TIME IF HE HAS SOMETHING THAT HE CAN REALLY USE. THIS IS THE SMALL BABY BEN ALARM CLOCK. I FIND THIS ONE PARTICULARLY DIFFICULT TO USE. THE LARGE BIG BEN ALARM CLOCK HAS HEAVY RAISED LINES AROUND THE TRIM OF THE CLOCK SO THAT YOU CAN BECOME ORIENTED TO THE LOCATION OF THE NUMBERS. I DO NOT RECOMMEND STARTING TO TELL TIME WITH ONE OF THESE ALARM CLOCKS. AFTER THE CHILD HAS LEARNED HIS NUMBERS AND HAS SOME CONCEPTION OF TIME, HE CAN BEGIN TO USE THIS CARDBOARD CLOCK, WHICH YOU CAN ACTUALLY MAKE UP YOURSELF, AND THEN HE CAN PROGRESS TO TELLING TIME ON AN ALARM CLOCK. THEN A POCKET WATCH, WHICH IS SMALLER CAN BE INTRODUCED AND THEN THE BRAILLE WATCH. NOW, A BRAILLE WATCH AND A POCKET WATCH ARE NOT REALLY BRAILLED. THEY ARE SIMPLY A SERIES OF DOTS TO HELP YOU KNOW WHERE 12 O'CLOCK AND 6 O'CLOCK, 3 O'CLOCK AND 9 O'CLOCK ARE. THE GLASS CAN BE OPENED UP, SO THAT YOU ACTUALLY FEEL THE HANDS OF THE CLOCK AND CAN LOCATE THE NUMBERS. THE HANDS ON CLOCKS AND WATCHES ARE VERY DELICATE. AT WHAT AGE A CHILD IS GIVEN A WATCH WILL BE DETERMINED TO A GREAT EXTENT BY HOW CAREFUL THE CHILD IS. IT'S A VERY PROUD DAY IN A CHILD'S LIFE WHEN HE DOES RECEIVE HIS FIRST WATCH AND IS ABLE TO TELL TIME BY HIMSELF.

IDENTIFICATION OF MONEY: I FIND THAT WHEN MY ADULTS BECOME BLIND, EVERYBODY DECIDES THAT THEY SHOULD NO LONGER HANDLE MONEY. IF THERE IS ANYBODY AROUND THE ADULT, THEY WILL ALWAYS PROCEED TO TAKE HIS MONEY AWAY FROM HIM AND PAY HIS BILLS. THEY WILL NOT ALLOW HIM TO HANDLE MONEY. THERE ARE SOME METHODS OF HANDLING MONEY. PAPER MONEY WE DO BY FOLDING IT. A ONE DOLLAR BILL IS LEFT FLAT; A FIVE DOLLAR BILL IS FOLDED - THE FOLD IS ACROSS THE SHORT WIDTH OF THE BILL, MAKING ALMOST A SQUARE; TO FOLD A TEN DOLLAR BILL, YOU FOLD IT THAT SAME WAY, ONE MORE TIME, MAKING A SMALL RECTANGLE; A TWENTY DOLLAR BILL IS FOLDED LENGTHWISE - IT IS PLACED IN THE BILLFOLD WITH THE FOLD AT THE TOP - THIS WAY, THE NUMBERS ARE DOWN IN THE BILLFOLD SO THAT NO ONE CAN SEE WHAT YOU DO HAVE IN YOUR BILLFOLD. ANOTHER REASON FOR PUTTING THE FOLD AT THE TOP IS THAT MONEY COULD NOT BE PLACED INSIDE THAT FOLD AND THEN ACCIDENTLY BE PULLED OUT WHEN YOU PULL OUT YOUR TWENTY DOLLAR BILL. WHEN YOU GO TO THE BANK AND GET A CHECK CASHED, YOU JUST ASK THE CASHIER TO IDENTIFY THE DENOMINATIONS.

Each denomination is placed as previously instructed. If someone hands you some money, identify it and fold it immediately. Coins are identified in several ways. There is the size, weight and the edges are different. The silver pieces - fifty cent pieces, quarters, dimes - have serraged edges. Pennies and nickles have smooth edges. These are skills that the children can work on and enjoy. They can play store and they can identify their coins and they can also learn how to identify their bills. It will also teach youngsters the value of a dollar.

One of the best sources of techniques for teaching skills is the Self-Study Course of Housekeeping Skills, published by the New York Center for Independent Living. This course breaks down tasks so they are easy to teach and to learn.

Demonstration - Barbara Muller

Sewing

Cleaning

Demonstration - Martha Coleman

Pouring Cold Liquids

Buttering Bread

Using Measuring Cups and Spoons

Leisure Time Activities

Cards
Scrabble
Chess
Ball
Knitting
Crochetting
Bead Stringing
Leather Work

Summary

Children learn by doing. Getting the children involved in everyday living activities. Observe the children, find their weak points and help them to improve their skills.

Remember they are children who have a vision problem not blind children.

SUPPLIERS

American Foundation for the Blind 15 W. 16th Street New York, NY 10011	Aids and Appliances Audible Ball
American Printing House f/t Blind 1839 Frankfort Avenue Louisville, KY 40206	Communication Aids Academic Supplies
Touch Aids 1049 Ridondo Way Hamet, CA 92343	Large Braille Cell
Howe Press 175 N. Beacon Street Watertown, Mass. 02172	Braille Writers & Slates
American Thermaform 8640 E. Slauson Avenue Pico Rivera, CA 90660	Braillable (Label Paper)
Hadley School f/t Blind 700 Elm Street Winnetka, Ill. 60093	Correspondence Courses
Chadwick Miller, Inc. Boston, Mass. 02125 (or contact Stanley Products)	Sock Sorters

SUPPLIERS CONT.

CENTER FOR INDEPENDENT LIVING 310 E. 15TH STREET NEW YORK, NY 10003	A CASSETTE COURSE FOR NEWLY VISUALLY IMPAIRED INDIVIDUALS
GLORIA GARRETT 3202 DALWOOD ROAD OXEN HILL, MARYLAND 20022	WRITING BOARD
DYMO CORPORATION BERKLEY, CA	DYMO-MITE TYPEWRITER

SUPPLIERS

American Foundation for the Blind 15 W. 16th St. New York, N.Y. 10011	Aids and Appliances Audible Ball
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Chadwick Miller, Inc. Boston, Mass. 02125 (or contact Stanley Products)	Sock Sorters
Center for Independent Living 310 E. 15th St. New Yori, New York 10003	A cassette course for newly visually impaired individuals
Gloria Garrett 3202 Delwood Rd. Oxen Hill, Maryland 20022	Writing Board
Dymo Corporation Berkley, California	Dymo-mite Tapewriter

Independent Housekeeping Skills

Organization of Equipment and Supplies

When tackling the chores of homemaking, as well as other tasks, organization can play an important role. Elimination of unused items and consolidation of supplies within a defined area are of prime importance. For example, when this shelf of random cleaners becomes this tote tray of one's most frequently used cleaning supplies, the chores of cleaning have been lightened.

Dusting, Polishing, Cleaning a Surface Area, Cleaning Mirrors & Windows

Now that supplies are organized, demonstration of their use is in order. If you could imagine this table as a student's study area which is to be regularly cleaned, a relationship can be established between the classroom situation and preparation for independent living skills. From the New York Center for Independent Living comes the following: Pages 45 - 48

Likewise, cleaning a surface area follows a similar breakdown: Pages 43 - 45

Cleaning mirrors and windows incorporate many of the aforementioned skills. Encouraging the use of vinegar and water as an excellent, inexpensive, safe cleaner for glass which is available in most kitchens is recommended. Using a systematic approach as previously described is essential for success.

Sweeping a Non-carpeted Area

Sweeping is another household chore which can be practiced in the classroom. By rotating the responsibility of regular cleaning of the classroom floor, individuals are being prepared for independent living.

Again, from the aforementioned self-study course, a breakdown of the procedures for sweeping a non-carpeted area: Pages 61 - 63

Washing and vacuuming floors share many of the techniques learned through sweeping, although particular technique adjustments need to be made they will not be discussed at this time. A thorough discussion of washing floors and vacuuming is included in the self-study course from the Center of Independent Living.

Clothing Awareness

Concept development of color, pattern and design in the individual who is congenitally blind is extremely important for a smooth transition into a visually oriented society. Descriptions of hues, tints, shades, compliments, as well as an understanding of moods and visual appeal created by the use, or lack of use, of color is essential in developing clothing awareness. Pattern and design concept development present relatively easy solutions, as appeal to the sense of touch can easily clarify misconceptions, making samples of patterns using material strips or configurations to represent patterns such as checks, plaids, prints, etc., are excellent teaching tools. Design might be best exemplified by dressing dolls with various styles, followed by a discussion of line as related to body shape. From the beginning of time children can be made aware of color, design etc., by merely discussing their attire.

Proper style, color and pattern coordination can be reinforced by hanging coordinated items together, compiling a list of interchangeable coordinates, or memorizing interchangeable wardrobe coordinates. Each of the aforementioned methods becomes progressively more difficult, however, it develops a more acute

SENSE OF CLOTHING AWARENESS.

CLOTHING - MARKING, SORTING, GENERAL CARE, ARRANGEMENT IN DRAWERS

CLOTHING CAN BE MARKED AND IDENTIFIED USING SEVERAL DIFFERENT METHODS OR A COMBINATION OF METHODS. PRIOR TO MARKING, HOWEVER, EXAMINATION OF THE CLOTHING SHOULD REVEAL VARIATIONS OF STYLE, DECOR, MATERIAL COMPOSITION, FASTENER ETC. BEING FAMILIAR WITH THESE VARIATIONS WILL ASSIST RECOGNITION.

THE FOLLOWING LIST PROVIDES SOME IDEAS FOR MARKING AND SORTING:

- FRENCH KNOTS CORRESPONDING TO BRAILLE
- SAFETY PIN COMBINATIONS

  I.E.: 1 HORIZONTAL PIN = BLUE
  2 HORIZONTAL PINS = GREEN
  3 HORIZONTAL PINS = RED

  1 VERTICAL PIN = WHITE
  2 VERTICAL PINS = BEIGE
  3 VERTICAL PINS = BLACK
- METAL TAGS USING BRAILLE TO INDICATE COLOR
- SOCK SORTER OR SAFETY PINS FOR MATING OF SOCKS

ONCE IDENTIFICATION AND MARKING OF CLOTHING HAS TAKEN PLACE, COMBINED WITH A FIRM KNOWLEDGE OF THE DIFFERENCES OF MATERIALS AND FINISHES, SORTING BECOMES COMMONPLACE. SHOULD ANY GARMENT REQUIRE EXTRAORDINARY CARE SUCH AS DRY CLEANING OR DRIP DRY A METHOD OF IDENTIFICATION WOULD BE ESTABLISHED. AN EXAMPLE WOULD BE TO PLACE THE INITIALS D.D. IN THE WAIST OF A DRIP DRY PAIR OF SLACKS.

NOW THAT THE IDENTIFICATION AND SORTING HAS BEEN DONE, DRAWER ARRANGEMENT FOLLOWS. WHETHER ARRANGING DRAWERS FOR CLOTHING OR TUPPERWARE, THE PROCEDURE IS THE SAME; ORGANIZATION AND NEATNESS IS OF THE UPMOST IMPORTANCE. EVEN A PRE-SCHOOLER CAN BE INVOLVED IN DRAWER ARRANGEMENT, PLACEMENT OF CLOTHING AND KEEPING ORDER WHEN PROPER AIDES ARE INVOLVED. AS SHOWN IN THIS CHILD'S CLOTHING DRAWER, USE OF CARDBOARD BOXES IS BENEFICIAL FOR ORGANIZATIONAL TECHNIQUES.

SEWING - ORGANIZATION OF MATERIALS, SEWING AIDES, SEWING ON A BUTTON

SEWING SKILLS CAN BE INITIATED AT AN EARLY AGE BY INCORPORATING SEWING CARDS AND LACING PROJECTS (I.E. LEATHER SETS) IN SCHOOL ACTIVITIES. BULLETIN BOARDS MIGHT INCLUDE PROJECTS REQUIRING HAND SEWING ABILITIES TO FURTHER DEVELOP SEWING SKILLS. ORGANIZATION OF SUPPLIES AND KNOWLEDGE OF SEWING AIDES AGAIN REDUCE THE CHANCES OF FAILURE. THE FOLLOWING AIDES ARE AVAILABLE IN MOST HOUSEHOLDS OR AT FABRIC STORES:

- NEEDLE THREADER - WIRE OR PLASTIC DEVISE
- SELF THREADING NEEDLES
- SMALL SCISSORS OR CLIPPERS
- ERASER OR SOAP
- HEM MARKERS
- TAPE MEASURE (WHICH CAN BE MARKED WITH STAPLES AT EVERY INCH)
- MAGNET
- MAGNETIC OR SCREW SEAM GUIDE
- CORK (FOR SCISSORS)
- HANDIBOBS

With the sewing aides organized we can proceed. While Martha is distributing the supplies, I will demonstrate the use of a needle threader. (Demonstration) The next item on the agenda is testing your abilities to sew on a button - while simulating blindness: Pages 78 - 80, Self-Study Course, Center for Independent Living.

In closing I would like to again stress the need for incorporating the skills of daily living into the classroom situation so as to prepare an individual for satisfying independent living.

I would like to thank all of you for your cooperation. At this time I would be willing to answer questions.

TASK 15. Cleaning a Work Surface

Hints:

Be familiar with the shape of the work surface to be cleaned.

Often, a tray placed on the work surface is helpful in organizing cleaning; firstly, for keeping all cleaning items together and secondly for use as a marker during sequential cleaning operations.

Cleaning the work surfaces after use makes major clean-up much easier.

Equipment:

For this task you will require a sponge and/or a cloth, paper towel, small dustpan, a waste receptacle, and either a table, counter or some work surface. A tray may be used as mentioned in the "Hints" section.

Performance Criteria: Evaluation:

You will have completed this task successfully if:	1	2	3
a) You are able to remove all utensils and objects from the surface to be cleaned.	☐	☐	☐
b) You are able to collect all debris in a predetermined position.	☐	☐	☐
c) You are able to remove the debris without any spills.	☐	☐	☐
d) You are able to select a systematized approach to insure that all areas are clean to the touch.	☐	☐	☐

SUGGESTED TECHNIQUE

1. CHECK THAT ALL UTENSILS AND OTHER OBJECTS HAVE BEEN REMOVED FROM THE SURFACE TO BE CLEANED. CAUTIOUSLY SCAN THE SURFACE WITH BOTH HANDS, PALMS DOWN IN A SYSTEMATIC WAY, E.G., FROM THE BACK OF THE SURFACE TOWARD THE BODY. THIS SHOULD BE REPEATED UNTIL THE ENTIRE SURFACE IS COVERED, REMOVING ALL LOCATED OBJECTS TO A CONVENIENT STORAGE PLACE.
2. IF THE SURFACE IS LARGE OR IRREGULARLY SHAPED, MENTALLY DIVIDE IT INTO SECTIONS, OR AS DESCRIBED IN THE "HINTS" SECTION, USE A TRAY AS A MARKER.
3. DEBRIS OR CRUMBS WILL BE REMOVED FROM EACH SECTION USING A PAPER TOWEL AND A DUSTPAN. *SPRINKLE SUGAR ON SURFACE AREA TO BE CLEANED TO ASSIST EVALUATION.
4. STARTING AT THE BACK LEFT HAND EDGE OF THE TABLE, USE THE TOWEL TO BRUSH THE DEBRIS DIRECTLY TOWARD YOUR BODY.
5. HOLD THE DUSTPAN AT THE FRONT EDGE OF THE TABLE TO COLLECT DEBRIS AS IT FALLS FROM THE TABLE.
6. MOVE SLIGHTLY TO THE RIGHT AND REPEAT THE MOTION UNTIL THE ENTIRE SECTION HAS BEEN COVERED.
7. EACH STROKE FROM BACK TO FRONT SHOULD SLIGHTLY OVERLAP THE LAST IN ORDER TO INSURE THAT NO AREAS ARE OVERLOOKED.
8. AFTER THE ENTIRE SURFACE HAS BEEN COVERED, THE DUSTPAN SHOULD BE EMPTIED INTO A WASTE RECEPTACLE.
9. USE A DAMP SPONGE OR FLAT CLOTH TO COVER THE ENTIRE SURFACE AS ABOVE TO REMOVE ANY STICKINESS.

10. Use your left hand as a guide in front of the cloth or sponge to detect any particularly dirty or sticky areas. If located, apply extra pressure with the sponge or cloth and continue covering that area until it is clean to the touch.

11. At the completion of this task, you should again check the surface with the fingertips as described above in order to catch any neglected areas.

Note:

Depending upon the size, shape and location of the surface, cleaning strokes may be made in the most convenient direction as long as a similar systematic approach is utilized.

TASK 16. Dusting and/or Polishing Furniture

Hints:

The secret to this task is to use a systematic approach to cover the item in need of either dusting or polishing. Regular dusting and polishing is easier to do than putting off the job and having a really big cleaning job to do.

Equipment:

For this task you will require a table (or other piece of furniture) in need of polishing and/or dusting, furniture polish and at least two cloths.

Performance Criteria:	Evaluation:		
You will have completed this task successfully if:	1	2	3
a) You are able to remove all items from the furniture, e.g., vases, ash trays, etc.	☐	☐	☐
b) You are able to transfer the polish onto the cloth.	☐	☐	☐
c) You are able to work in a systematic manner to insure complete coverage.	☐	☐	☐
d) You are able to use a clean cloth to cover the entire area after the polishing process.	☐	☐	☐

Suggested Technique:

1. Remove all contents from the table or other piece of furniture and place them in a convenient and memorable position. If possible, you may find it helpful to place these items underneath the furniture so that they are out of your way.
2. Locate the furniture polish and a clean cloth. If you are using an aerosol can, it should first be shaken before it is opened or sprayed. The cap should then be removed and placed in a memorable position away from the surface to be cleaned.
3. Bring the cloth in contact with the nozzle of the spray and then move it a few inches away from it.

4. Use the index finger of the hand holding the can to depress the button which releases the polish, and spray for no more than five seconds.
5. Place the cloth on the table with the moistened side facing downwards. Set the container to one side, in a memorable position.
6. Stand with the length of the table parallel to the body and begin polishing from one corner with the cloth in one hand, and with the free hand on the edge of the table.
7. Work from the front edge of the table toward the back edge in small circular motions, keeping the cloth in contact with the table.
8. Use the free hand, which is resting on the edge of the table, as a starting reference point. Move the hand over one hand's width in order to locate each sequential section.

TASK 21. Sweeping a Non-Carpeted Area

Hints:

Do not take on an area of the room which is too large to handle.

Always work in small sections. (Use tangible reference points to subdivide area.)

Keep a continuous mental record of the areas covered.

In order to insure that all of the dirt has been collected from the floor, you can go over the area with a damp paper towel or duster.

Equipment:

For this task you will require a broom, a dustpan and a non-carpeted area that is in need of sweeping.

Performance Criteria: You will have completed this task successfully if:	Evaluation: 1	2	3
a) You are able to divide the room into sections which are separated by familiar reference points.	☐	☐	☐
b) You are able to maintain orientation within the given area.	☐	☐	☐
c) You are able to cover the entire room without missing any areas.	☐	☐	☐
d) You are able to collect the dust into the dustpan.	☐	☐	☐
e) You are able to carry the dustpan to the waste receptacle without spilling the contents.	☐	☐	☐

Suggested Technique:

1. First familiarize yourself with the shape and dimensions of the room to be swept.
2. The floor space should be sectioned off by the placement of the furniture in the room, e.g., lounge chair, etc.
3. Select a corner of the room from which to start.
4. Hold the broom with both hands. (Grasp broom so that the crack of the index finger fits with the properly placed thumb tack.) The left hand will hold the broom at hip level and the other hand will be positioned between the left hand and the tip of the handle.

5. PLACE THE BROOM IN THE CORNER AND BEGIN TO SWEEP TOWARD YOURSELF, MOVING SIDEWAYS ACROSS THE ROOM.
6. GATHER THE DIRT NEAR YOUR FOOT AND BRING IT WITH YOU AS YOU SWEEP.
7. UPON REACHING THE OPPOSITE SIDE OF THE ROOM, TAKE A STEP BACKWARDS AND REPEAT THE PROCESS IN THE OPPOSITE DIRECTION.
8. TRY TO OVERLAP THE AREAS YOU ARE SWEEPING TO MAKE SURE YOU DO NOT MISS ANY PART OF THE FLOOR.
9. WHEN YOU HAVE COVERED THE "FREE" AREA OF THE ROOM IN THIS MANNER, YOU MAY WISH TO SWEEP UNDER AND AROUND THE FURNITURE.
10. SWEEP THE PILE OF DIRT YOU HAVE COLLECTED TO A MEMORABLE POSITION (I.E., NEAR A REFERENCE POINT.)
11. USE THE DUSTPAN AND SMALL BRUSH TO TRANSFER THE DIRT FROM THE FLOOR TO THE WASTE RECEPTACLE.
12. YOU MAY WANT TO USE A DAMP PAPER TOWEL OR DUSTER TO MAKE SURE YOU HAVE COMPLETELY REMOVED THE DIRT FROM THE FLOOR.

TASK 22. USING A VACUUM CLEANER

HINTS:

IF YOU ARE FAMILIAR WITH THE AREA TO BE VACUUMED, THE TASK WILL BE MUCH EASIER.

AN ORGANIZED APPROACH WILL GUARANTEE THAT YOU HAVE COVERED ALL AREAS.

IF YOU ARE UNFAMILIAR WITH THE VARIOUS CHARACTERISTICS AND ATTACHMENTS OF YOUR VACUUM CLEANER, IT IS ADVISABLE TO HAVE THE INSTRUCTION MANUAL TRANSCRIBED IN BRAILLE, LARGE PRINT OR ON TAPE.

Equipment:

For this task you will require a vacuum cleaner and a carpet in need of cleaning.

TASK 27. Sewing a Two-Hole Button

Hints:

It is helpful to use a double thread as described in the previous task ("Threading a Needle With a Wire Loop Needle Threader").

Keep a small dish or bowl handy when you sew. Place your supplies in this bowl for easy location.

Keep the thumb of the left hand over the holes of the button to mark your place. In this manner, you will be able to determine how to alternate the needle from one hole to the other.

Equipment:

For this task you will require a pin cushion, a dish or bowl, a threaded needle, a pair of scissors, a button and a garment.

Performance Criteria:	Evaluation:		
You will have completed this task successfully if:	1	2	3
a) You are able to place the button, right side up over the desired position on the garment.	☐	☐	☐
b) You are able to sew and secure the button so that it will remain in place.	☐	☐	☐

SUGGESTED TECHNIQUE:

1. LOCATE THE BUTTON AND THE GARMENT AND DETERMINE WHERE THE BUTTON WILL BE SEWN ON THE FABRIC.
2. HOLD THE BUTTON RIGHT SIDE UP, IN THE POSITION ON THE GARMENT IN WHICH IT IS TO BE SEWN.
3. USE YOUR THUMB TO COVER THE HOLES OF THE BUTTON ON THE FRONT SIDE OF THE FABRIC AND YOUR INDEX FINGER TO MARK YOUR POSITION ON THE REAR SIDE OF THE FABRIC.
4. STARTING FROM THE REAR SIDE OF THE FABRIC, DRAW THE NEEDLE THROUGH THE FABRIC AND THROUGH THE HOLE OF THE BUTTON, MOVING YOUR THUMB AWAY FROM THE NEEDLE AS NECESSARY.
5. INSERT THE NEEDLE INTO THE OTHER HOLE OF THE BUTTON IN A DOWNWARD POSITION RETURNING THROUGH THE BUTTON TO THE REAR SIDE OF THE FABRIC.
6. REPEAT THIS PROCESS UNTIL THE BUTTON IS SECURELY FASTENED.
7. RETURN THE NEEDLE TO THE REAR SIDE OF THE FABRIC.
8. BRING THE NEEDLE THROUGH THE FABRIC AT THE SIDE OF THE BUTTON ON THE FRONT SIDE OF THE GARMENT.
9. WIND SOME OF THE REMAINING THREAD AROUND THE THREADS CONNECTING THE BUTTON TO THE FABRIC.
10. RETURN THE NEEDLE THROUGH THE FABRIC TO THE REAR SIDE AND MAKE THREE SHORT STITCHES, ONE ON TOP OF THE OTHER, TO FINALLY SECURE THE BUTTON.
11. CUT THE REMAINING THREAD WITH SCISSORS AND RETURN THE NEEDLE TO THE PIN CUSHION. THE BUTTON IS NOW SECURELY SEWN.

TASK 28. Repairing a Seam

Hints:

It is a good idea to check all garments at regular intervals to see whether or not they need to be repaired. If you get into the habit of checking your clothing both when you remove it and when you launder it, you will find points of weakness before a major repair is necessary. The old proverb still holds true: "A stitch in time saves nine."

Equipment:

For this task you will require pins, needle, thread, scissors and a garment that has a seam in need of repair.

Performance Criteria:	Evaluation:		
You will have completed this task successfully if:	1	2	3
a) You are able to locate and trace the section to be repaired.	☐	☐	☐
b) You are able to locate the beginning and the end of the section to be repaired.	☐	☐	☐

Rob J. Mills

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LOW VISION AIDS AND APPLIANCES FOR THE ORIENTATION AND MOBILITY EDUCATION OF VISUALLY IMPAIRED YOUTH WITH RESIDUAL VISION

(SOME INSIGHTS INTO THE USEFUL AND WORTHWHILE AND INTO USELESS AND WORTHLESS GADGETS OF 20TH CENTURY OPTICS)

1. Mobility and Orientation Education cannot be narrowly limited to travel but must include experience in all aspects of body movement and use which begins in infancy and early childhood.

2. The abilities of the student must be evaluated truly using the strictest standard usually used with sighted children; family members, particularly parents, and some school personnel usually tend to rate visually impaired kids more favorably on body use and posture than is possible indicating that they may use less strict standards for children with poor vision. Those difficulities according to Dr. Joseph Mayer are:

   1. Denial of the mobility needs of their children by parents;
   2. Overprotectiveness of teachers and parents;
   3. Children's denial of knowledge of the handicapped;
   4. Passivity.

   The results are clear.

   1. A history of lack of opportunities for exploration during infancy and early childhood.
   2. Readiness for special instruction and training of visually impaired kids emphasizes posture, body use and general physical development are generally lacking, initially in home, the school and the child himself.

3. A mobility and orientation approach for the improvement of education for partially seeing children in school settings can be effective, economically feasible, and practical.

4. There is a need for mobility and orientation instruction ineffective body use which should begin in infancy and continue throughout the school years. Such instruction should serve as a supplementary and motivating factor to normal learning experiences in the home neighborhood and school.

Most literature concentrates itself with near visual aids and evaluation of functional vision.

As my topic suggests, I am less concerned with those aspects as necessary as they are to the acculturation of our visually impaired kids than I am with improved optical devices for increasing distance vision and visual fields of visually impaired kids or the orientation and mobility training with and without the aids and appliances which are essential to the success of these kids. This is a viable measure of the competency of our educational system, I think.

Let's define a low vision individual...... Anyone who has light projection -- light perception all the way to 20/200 visual acuity or whose field is reduced so as to subtend 20°.

First, just as I.Q.'s are not good predictors of orientation and mobility success, neither is a visual acuity or a visual field.

Focus of all involved with the child must be visual efficiency and performance and the ability to work around the visual deficiency is what is truly important. The cause or etiology of the problem is generally helpful but noting what are the visual deficiences is not as helpful.

Visual stimulation, providing optical aids, providing visual training is one way of proceeding with these kids early in life.

Most near visual aids work for magnification. There is much written and available on their uses and training to use them.

Maher and Freid -- Low Vision Care
Eleanor Faye -- The Low Vision Patient
Gerald Fonda -- Management of Patients with Subnormal Vision
American Optometric Association's Guide to Care of Low Vision Patients
Optometric Weekly's Section Low Vision Clinic

The Refraction Letter Monthly Information Series from Bausch and Lamb -- $6.00 a year -- P.O. Box 564, Rochester, New York 14602

Topics of Aids Manual of Visual Skills available through the Palo Alto VA Hospital Western Blind Rehabilitation Center.

Well, let's examine the evaluation of visual efficiency in non-clinical field setting done by orientation and mobility specialists.

Visual performance requiring specific skills:

1. Recognition of:
   - A. form
   - B. space
   - C. direction
2. Judgment and decision making
   - A. to avoid objects
   - B. and people contact

Judge depth - distance
   of intersection
   of object
   of traffic lights, etc.

Evaluation must be done: indoors, outdoors, day, night, in as many types of weather conditions as practical.

The following is taken from the manual, Distance, Visual and Perceptual Training, Loyal E. Apple and Marianne May, American Foundation for the Blind, May, 1971.

"Subjective examinations should be conducted by the mobility specialist in the following areas:

1. Additional individual data should contain attention to literacy, attitudes, hope for return of vision, role in family, uses of vision at present time, and aspirations for the use of vision.

"2. Low-vision cases have visual anomalies of which they may or may not be aware. These do not appear in the usual examination approaches. They included extinction, fluctuation, phosphenes, floaters, photophobia, absence or distortion of color perception, distortion of spatial perception, impaired visual memory, impaired visual retention, irregular head posture associated with loss of visual field, and pseudofoveas also associated with field defects. Useful references are: Battersby, W.S., M.B. Bender, M. Pollack, and R.L. Kahn, "Unilateral Spatial Agnosia (i nattention) in patients with cerebral lesions." Brain, 79, 1956; Bender M.B. and H.P. Krieger, "Visual function in perimetrically Blind Fields." Archives of Neurology & Psychiatry, 65, Jan. 1951, 72-79; Bender, M.B. and H.L. Tueber, "Phenomena of Fluctuation, Extinction and Completion in Visual Perception." Archives of Neurology & Psychiatry, 55, Jan. 1964, 29-33; Bender, M.B. and H.L. Tueber, "Spatial Organization in Visual Perception after Brain Injury." Archives of Neurology & Psychiatry, 58, Dec. 1974, 721 and 69, Jan. 1948, 39-64; Holmes, G., "Disturbances of Visual Orientation." British Journal of Ophthalmology, 2, 1918, 450-516; Williams, D. and M.M. Gassel, "Visual function in Patients with Homonymous Hemianopia." Part 1. "The Visual Fields," Part 11. "The Completion Phenomenon: Insight and Attitude to the Defect, and Visual Functional Efficiency." Brain, 85, 1962; and 86, 1963."

"3. Subjective field examination is an attempt to form approximations of how the low-vision case sees or understands his blind spots, or areas of depressed vision. It also allows more useful interpretation of anomalies and the planning of specific training programs to deal with them. The fact that a low-vision person is not aware of field loss is not necessarily a negative sign, but rather a significant one. The techniques most useful in subjective fields and anomalies examinations are drawing, counting and identifying prearranged objects, bi-secting lines, setting of clock, and copying figures which show perspective. References to these may be found in Bender & Tueber, "Disorders in the Visual Perception of Motion." Transactions of the American Neurological Association, 1948, 191-193; Newcombe, Freda, Missile Wounds of the Brain. London: Oxford Univ. Press, 1969; Williams. D. and M.M. Gassel, "Visual Function in Patients with Homonymous Hemianopia." Part 1. "The Visual Fields," Part 111. "The Completion Phenomenon: Insight and Attitude to the Defect, and Visual Functional Efficiency." Brain, 85, 1962; and 86, 1963.

Apple and May also suggest a "Distant, functional vision work-up. The mobility specialist will be interested in his own functional distant vision work-up. This work-up is done in a

FAIRLY UNCONTROLLED ENVIRONMENT. THE ENVIRONMENT SELECTED SHOULD RUN FROM THE FAMILIAR OR MORE COMMONLY FOUND, TO THE LESS FAMILIAR AND MORE UNUSUAL.

"1. THE SPECIALIST SHOULD ALLOW THE LOW-VISION PERSON TO GIVE FEEDBACK ON THE SIZE AND INTENSITY OF GLARE AREAS HE CAN PERCEIVE. THE EXTENT TO WHICH THE PERSON DEPENDS ON CONTRAST AND AT WHAT DISTANCE CONTRAST IS DETECTED SHOULD BE DETERMINED. OBSERVE FOR THE PRESENCE AND NATURE OF SCANNING.

"DETECTION OF THE MOTION OF OTHERS, DETECTION OF STATIONARY THINGS WHILE ONE IS MOVING, AND DETECTION OF MOVING THINGS WHILE ONE IS MOVING.

"2. THESE TESTS GIVE CLUES TO THE MANNER IN WHICH THE LOW-VISION PERSON WILL HANDLE CONDITIONS ON CROWDED SIDEWALKS. IT IS USED IN THE DEVELOPMENT OF TECHNIQUES FOR PASSING PERSONS WITHOUT COLLIDING AND WITHOUT UNGAINLY BEHAVIOR. (PART 1, VISUAL PERCEPTION OF SPACE AND DIRECTION).

"3. ASSESSMENT IN UNCONTROLLED OUTDOOR ENVIRONMENT OF THE RESIDENTIAL-AND BUSINESS-DISTRICT TYPE INVOLVE MANY OF THE SAME FACTORS AS THE INDOOR. EMPHASIZE GOOD CONTRAST RATHER THAN COMPLEXITY OF DETAIL.

I HAVE FOUND THE USE OF ORDERING TASKS ALSO WELL SUITED TO ASSISTING WITH THE EVALUATION. THEY ARE COMMERCIALLY AVAILABLE FROM LOVE PUBLISHING COMPANY. LOW VISION ABSTRACTS IS A GOOD SOURCE FOR FUNCTIONAL EVALUATION OF LOW VISION CLIENTS.

THE MAJOR KNOWN OPTICAL DISTANCE AIDS ARE HANDHELD OR CLIP-ON TELESCOPIC SYSTEMS. THE TELESCOPES ARE 2.5 TO 10X. THE DRAWBACKS INCLUDE REDUCED VISUAL FIELD SIGNIFICANTLY.

The most popular telescopic aid is 6X - 8X system. It is excellent for spotting, identifying house numbers, street signs, bus destinations, etc. Kids who can use this system must be recommended for low-vision evaluation and when proper power is prescribed and unit obtained, the peripatologist must provide instruction in its use which will be fairly simple if the O&M'er has completed work with a child in using his vision to the best advantage and has developed proper scanning search and concepts of components which make up environment of child. Instruction includes care of the aid, holding it effectively, scanning without aid to locate target, then zero in on specific spot on target for information which is desired and providing lessons which require the child to use the aid in locating objectives first, in known environment, later, unknown area, simulating moving to new town and requiring child to familiarize himself with this new environment using all his skills including the monocular telescope unit.

Fresnal Prism. After the visual field is measured and it is noted where the field ends, the optometrist places prism in the inferior field ordinarily this individual would move his whole head to see. With the prism, only a slight eye movement from superior to inferior field will allow individual to look down, and a flight of stairs will come up to him. This creates perceptual distortion and spatial training has to accompany the use of this aid. It has been found successful with individuals having Retinitis Pigmentosa. It increases the field of vision for them.

Faults of the half prism and quarter prism. If an individual looks into a prism and finds something he wants to further check on or check spatial orientation, he will continue the same gross eye movement. To eliminate the problem which this creates when a

STRIP OF THE PRISM IS CUT AND PLACED ON THE LENS. THE OBJECT CAN BE VIEWED IN THE PRISM AND IT CAN BE LOOKED AT.

DRAWBACK. WHEN FIRST USED, THE PRISMS WERE PLACED ON THE EDGE OF GOOD VISUAL FIELD, IT CAUSED DOUBLE VISION, BECAUSE THIS DID NOT ALLOW FOR SCANNING OR TRACKING THE EYE WOULD NORMALLY DO. KNOWING EDGE OF VISUAL FIELD, MOVE PRISM ONE MILLIMETER TEMPORAL TO THE VISUAL FIELD SO THERE IS ROOM FOR SCANNING AND TRACKING AND GAZING WITHOUT GOING INTO PRISM. THIS IS FINE IF YOU ARE ONLY DOING MONOCULAR TRAINING. YOU HAVE DOUBLE PROBLEM IF YOU HAVE PRISM ON ONE EYE AND REGULAR LENS ON THE OTHER EYE BECAUSE WHEN YOU LOOK IN ONE DIRECTION, LET'S SAY TO THE LEFT, THE VIEW BROUGHT UP BY THE PRISM AND ALL THE STUFF THAT IS TO THE LEFT, THEN THE OTHER EYE WITHOUT THE PRISM DOES NOT SEE THAT AND SO YOU HAVE A DOUBLE IMAGE MUCH LIKE A PHOTOGRAPHIC PRINT OF A DOUBLE EXPOSURE, AND IF YOU CAN IMAGE THE CONSIDERABLE CONFUSION THIS CAN CAUSE.

TO ELIMINATE THIS, PLACE THE PRISM TEMPLE SIDE LEFT EYE AND PLACE AN OCCLUDER ON THE NASAL SIDE OF THE RIGHT EYE. THIS WILL ALLOW NORMAL EYE MOVEMENT BUT WILL CAUSE THE LEFT EYE TO BE IN THE TEMPLE AREA WITH PRISM WHILE THE RIGHT EYE WILL BE IN THE OCCLUDED AREA AND THUS NO DOUBLE IMAGE.

FRENEL PRISMS ARE STILL EXPERIMENTAL, HOWEVER, PRESENTLY BY PLACING A SIMPLE VERTICAL STRIP OF THE PRISM ON THE LENS CUT IN HALF SO IT ONLY COMES TO THE TOP OF THE PUPIL YOU CAN SEE WHAT'S COMING OVER FROM THE LEFT AND IF THE INDIVIDUAL DOES NOT WANT THAT BECAUSE OF PERCEPTUAL DISTORTION, HE CAN SIMPLY RAISE THE EYE AND MOVE ABOVE THE STRIP AND USE THIS. THERE IS AN ARTICLE ON THE FRESNEL PRISM IN THE DECEMBER, 1975 ISSUE OF THE NEW OUTLOOK FOR THE BLIND AND IN THE APRIL, 1976, ISSUE OF THE REFRACTION LETTER SPONSORED BY BAUSCH AND LAMB; DR. RANDY T. JOSE, PENNSYLVANIA COLLEGE OF OPTOMETRY GIVES A VERY DETAILED ACCOUNT OF HOW TO TECHNICALLY USE THE PRISMS TO ADVANTAGE WITH LOW-VISION CLIENTS, PARTICULARLY THOSE WITH RETINITIS PIGMENTOSA. HE CHALLENGES HIS COLLEAGUES TO DEVISE NEW WAYS TO USE IT.

Telescopic Bioptic System. The common use for people trying to get a driver's license. Good for people with 20/50 to 20/100 vision becomes medicore for those with less vision; basically is a lens with a telescopic insert. It is generally not useful to students with less than 20/200 vision but has been shown successful in New York State in studies conducted by the Driver's license authority; however, this is skewed because of a tendency of these people to drive only in excellent driving conditions and so their record appears to be safer on the surface than that of the sighted driver unaided. Generally the telescopes are 2.2X to 3X and none are stronger.

There are other situations which use a modified telescopic system. I have a friend who attended a residential school for Blind, graduated, went to college and became a physical education teacher at a residential school for the blind and also the wrestling coach as you might suspect. Well, while working at the school, he had his eyes examined, a new prescription for contact lenses and a regular pair of glasses worn in combination providing a telescopic system was prescribed and his vision was improved to 20/20 for the first time. He subsequently was accepted and completed and graduated from Western Michigan University's Graduate O&M Program and today, he teaches O&M at the residential school he graduated from.

Dr. Julian Newman of Tampa Florida, an optometrist, also prescribed some of these combination contacts and glasses for his low-vision patients, who like my friend, had been congenitally low-vision all their lives. Within a week of the patients getting the new prescriptions, he lost one patient and almost lost another to pedestrian accidents because the patients could

NOT JUDGE THE CLOSING DISTANCE SPEEDS AND HAD PERCEPTUAL DISTORTIONS. AFTER THESE ACCIDENTS, HE CONTACTED A FRIEND OF MINE AT FLORIDA STATE UNIVERSITY AND SUBSEQUENTLY ALL LOW-VISION PATIENTS WERE REFERRED FOR O&M TRAINING WITH THEIR IMPROVED VISION. SINCE THAT TIME, HE REPORTED MORE THAN A DOZEN PATIENTS HAVE RECEIVED SIMILAR SYSTEMS AND PROPER TRAINING WITH THE AIDS AND THERE HAVE BEEN NO FURTHER INVOLVEMENT WITH ACCIDENTS. HE CARRIED HIS BELIEFS TO THE A.O.A. FOR UPGRADING THE DELIVERY OF SERVICE TO LOW-VISION PEOPLE AND PUSHED FOR ADDITIONAL TRAINING ABOVE AND BEYOND THAT PREVIOUSLY REQUIRED TO PROVIDE LOW-VISION SERVICE.

THE TELESCOPE CAN BE USED WITH INDIVIDUALS WHO HAVE REDUCED FIELDS BY REVERSING IT. THIS EXPANDS THE FIELD BY MINATURIZING WHOLE SEGMENTS OF THE ENVIRONMENT. THIS SYSTEM HAS SOME SERIOUS DRAWBACKS.

1. DISTANCE PERCEPTION IS THROWN OFF.
2. SPATIAL ORIENTATION IS RUINED AND ACUITY OF THE AID IS REDUCED.

MOST INDIVIDUALS ARE INTERESTED IN THE EXPANDED FIELD BUT MOST ARE NOT WILLING TO SACRIFICE ACUITY AND DISTANCE PERCEPTION FOR AN ENLARGED FIELD. HOWEVER, RATHER THAN A CLIP-ON 2.2 TELESCOPE, A POCKET VERSION WHICH CAN BE HANDHELD CAN BE USED WHEN THE INDIVIDUAL WANTS TO LOOK AT LARGER SEGMENTS OF THE ENVIRONMENT FOR QUICK REFERENCE OR ORIENTATION. SOME WHO USE 6X -8X SELSI SYSTEM JUST REVERSE THIS AID FOR THE SAME PURPOSE. ONE YOUNG MAN I WORKED WITH WAS THE FIRST TO POINT OUT THE ADVANTAGE OF HIS DEVICE FOR CHECKING OUT "THE BIG PICTURE".

YET ANOTHER DEVICE WHICH CAN HELP LOW-VISION KIDS IS TINTED LENSES OR FILTERS. THEY ALLOW FOR INCREASE AND REDUCTION OF LIGHT TRANSMISSION. THESE CAN BE USED TO ELIMINATE GLARE AS IN POLORIZED SUNGLASSES WE BUY AT THE DRUG STORE OR A PRESCRIPTION WHICH REDUCES LIGHT TRANSMITTORS ALL THE WAY DOWN TO ONLY 1%.

ONE THING COMMON WITH ALL LOW-VISION KIDS IS YOU CAN EXPECT FAILURE IF YOU JUST GIVE THE CHILD AN OPTICAL AID OR DEVICE. LOW-VISION IS A COMPLEX SUBJECT. THE CHILD NEEDS THE BEST EFFORTS OF THE VISION CARE SPECIALISTS: OPHTHALMOLOGIST, OPTOMETRIST, NEAR VISION SPECIALIST, TEACHER, PERIPATOLOGIST, AND PARENTS. THEY NEED TO COMMUNICATE AND COOPERATE SO THAT ANY DEVICE WILL HAVE A TRAINING PERIOD AND A COORDINATED TRAINING PROGRAM INCLUDING THE EXPLANATION OF THE OPTICS OF THE DEVICE TO BOTH USER AND SPECIALIST TRAINING INDIVIDUAL TO USE THE AID WHETHER FOR MOBILITY OR READING.

PERIPATOLOGISTS, TEACHERS, AND PARENTS NEED TO PROVIDE THE INITIAL IMPETUS TO IDENTIFY WHAT YOU WANT THE CHILD TO ACCOMPLISH AND AS DR. UNLACKE SAID EARLIER "THE VISION CARE SPECIALISTS" HAVE LITERALLY THOUSANDS OF AIDS AVAILABLE TO HELP A CHILD ACCOMPLISH THE TASK.

VISION IS DEVELOPMENTAL SENSE AND THE PEDIATRIC OPTOMETRIST CAN BE THE INDIVIDUAL WHO PUTS IT TOGETHER FOR THE LOW-VISION KID AT A LOW-VISION CLINIC.

EVEN WITH THE BEST COOPERATION BETWEEN SPECIALIST, TEACHER AND PARENTS AND THE BEST AIDS AND DEVICES AND TEACHING PROGRAMS, SUCCESS IS NOT GUARANTEED UNLESS THE KIDS ARE CONCERNED, INTERESTED AND MOTIVATED. MOTIVATION IS THE KEY TO SUCCESS AND WE NEED TO LISTEN TO THE KIDS AND APPLY OUR EXPERTISE AND OUR HUMAN UNDERSTANDING TO HELP THEM COPE AND TO MAKE THE BEST POSSIBLE USE OF THEIR LIMITED VISION.

REMEMBER, WE ARE ALL IN THE BUSINESS OF HELPING KIDS AND IT IS OUR RESPONSIBILITY TO MOTIVATE THE KIDS TO USE THEIR VISION, TO GET AIDS, TO USE THE AIDS AND IMPROVE THEIR PERFORMANCE ON THE TASKS SOCIETY HAS ASKED EACH TO PERFORM. THE SUCCESS OF OUR KIDS WILL TELL HOW WELL WE SUCCEED.

John P. Best, Ph.D.

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The Relevance of Normalcy
&
Career Education and the Visually Handicapped

Social Perspective

Recent literature, particularly in the field of mental retardation, contains many references to the "normalization process." We see concern expressed about equal educational opportunity, barrier free architectural environments... least restrictive alternative programs, and basic human rights. We see that the successful, well adjusted individual must have certain social and personality skills and qualities in order to function effectively in the world. We hear a lot about the importance of the environmental impact upon people and the psychological need for mental health in these rapidly changing and stressful times in which we live. On the one hand, we hear the hue and cry of those who recommend that each person be more of an individualist -- "do your own thing" -- "be a non-conformist" -- to the point where non-conformity now seems to conform to certain tried and tested norms itself. On the other hand

WE HEAR THE VOICES OF THOSE WHO SAY WE SHOULD TAKE A MORE CONSERVATIVE STANCE, NOT MAKE SUCH RAPID AND SWEEPING CHANGES, MAKE BETTER USE OF THE "TRIED AND TRUE METHODS" WE HAVE LEARNED FROM EXPERIENCE AND HISTORY -- THIS AT A TIME WHEN CHANGE IS GREATER AND MORE RAPID THAN EVER BEFORE, A TIME WHEN INFORMATION IS EXPANDING AT A FANTASTIC RATE, A TIME WHEN COMMUNICATION OF WORLDWIDE EVENTS IS NEARLY INSTANTANEOUS. WHAT THEN, IN THE FACE OF ALL OF THIS, IS NORMALCY? HOW DOES THE CONCEPT OF NORMALIZATION EFFECT THE BLIND AND VISUALLY HANDICAPPED? WHY ARE WE DISCUSSING THIS TOPIC? WHAT NEEDS TO BE DONE? LET'S SEE WHAT CONCLUSIONS CAN BE DRAWN AS WE EXAMINE THESE QUESTIONS, ONE BY ONE.

NORMALCY AND SOCIAL SANITY

FIRST OF ALL, WHAT IS MEANT BY NORMALCY? WHAT COMPRISES A "NORMAL" PERSON? IS "NORMAL" A STATIC CONDITION, ONCE REACHED, EVERLASTING AND UNCHANGING -- OR IS IT SOMETHING ELSE ENTIRELY? CAN WE LIST THE CHARACTERISTICS POSSESSED BY A "NORMAL" PERSON, AND THEN TAKE STEPS TO INGRAIN THOSE TRAITS IN OUR STUDENTS, THEREBY MAKING THEM EVENTUALLY NORMAL? ON THE OTHER HAND, IS BLINDNESS OR VISUAL IMPAIRMENT SUCH A UNIQUE AND CATASTROPHIC CONDITION THAT A PERSON SO AFFLICTED CAN NEVER BE OR EVEN SEEM NORMAL? IT SEEMS THAT OUR ATTEMPT TO RESPOND TO THE QUESTION OF WHAT IS MEANT BY NORMALCY HAS RAISED EVEN MORE QUESTIONS. NORMALCY SIMPLY MEANS "FITTING IN" TO THE SITUATION IN WHICH WE LIVE. FITTING IN! A NORMAL PERSON IS A ROUND PEG IN A ROUND HOLE, OR A SQUARE PEG IN A SQUARE HOLE, OR A TRIANGULAR PEG IN A TRIANGULAR HOLE, OR AN OVAL PEG IN A OVAL SHAPED HOLE, OR A RECTANGULAR PEG IN A RECTANGULAR HOLE, OR WHATEVER. THIS DOES NOT NECESSARILY MEAN FOLLOWING IN SHEEPLIKE FASHION, BUT IT DOES

MEAN BEHAVING IN A MANNER GENERALLY ACCEPTED BY THE SOCIETY IN WHICH WE LIVE AND OPERATE. I ONCE ASKED A PSYCHIATRIST TO EXPLAIN INSANITY TO ME, ON THE ASSUMPTION THAT SANITY IS NORMALCY AND INSANITY IS AN ABNORMAL STATE. HE INFERRED THAT INSANITY IS VERY DIFFICULT, IF NOT IMPOSSIBLE TO DEFINE. THE REASON FOR THIS IS THAT SOCIETY DETERMINES WHAT IS INSANE BY ITS SOCIAL AND MORAL STANDARDS. YOU CAN TAKE ANY "SANE" PERSON AND PLACE HIM IN AN EXTREMELY FOREIGN ENVIRONMENT AND HE WILL SEEM "INSANE" TO THOSE AROUND HIM BECAUSE HIS ACTIONS WILL NOT SEEM NORMAL TO INDIVIDUALS ACCUSTOMED TO THAT ENVIRONMENT. FOR EXAMPLE, I REMEMBER THE PECULIAR BEHAVIOR OF AN EIGHT YEAR OLD BOY WHO CAME TO RESIDE IN A RESIDENTIAL SCHOOL A NUMBER OF YEARS AGO. A SOCIAL WORKER ACCOMPANIED HIM TO SCHOOL FROM HIS HOME. THEY RODE NEARLY 300 MILES BY TRAIN, AND THIS BOY CRIED AND SCREAMED MOST OF THE TRIP. ONCE IN THE DORMITORY, HE CURLED UP IN A BALL ON THE FLOOR AND TOTALLY WITHDREW HIMSELF FROM EVERYTHING AND EVERYBODY. IN THE DINING ROOM, HE REFUSED TO SIT AT THE TABLE, HURLED THE DISHES AND FOOD TO THE FLOOR, AND GENERALLY, BEHAVED IN A MOST "INSANE" MANNER. IT TURNED OUT THAT THIS BOY HAD LIVED HIS ENTIRE LIFE IN A TENT FAR OUT IN THE DESERT LANDS. HE HAD NEVER SEEN CIVILIZATION. WHAT LITTLE HE HAD HEARD OF THE CIVILIZED WORLD WAS DISTORTED IN THE TELLING AND MAGNIFIED INTO HORRORS BY HIS IMAGINATION. HE HAD NEVER SEEN A TRAIN, YET HE HAD TO RIDE IN THE INNARDS OF A GREAT, NOISY, STEAM BELCHING, FIRE-EATING MONSTER. HE HAD TO WEAR SHOES WHICH HURT HIS FEET. HIS SKIN HAD BEEN SCRUBBED CLEAN OF THE PROTECTIVE COATING TO WHICH HE HAD BECOME ACCUSTOMED. SUDDENLY, HE FOUND HIMSELF IN A BUILDING WITH THE "SUN" TURNED OFF AND ON BY A SWITCH ON THE WALL, RIVERS FLOWED FROM FAUCETS, YOU SLEPT ON A FOUR LEGGED CONTRIVANCE WHICH "WIGGLED" when you sat on it, and the only source of nourishment was an assortment of strange and unrecognizable concoctions. To the staff and students of the school, this little boy seemed "insane" because he was not behaving in a manner that was "normal" by their standards. Yet, if we were to suddenly transplant any of the other boys of the school to his home far away from civilization, they might have seemed very abnormal to this little boy's acquaintances. To a lesser degree, there are many differences in varying environments with which we are more familiar. Compare military life with civilian life, country living with city living, warm climates with cold climates, coastal industry with inland industry, ghetto life with suburbia, professional occupations with manual labor. Look at the differing social mores of cowboys, truck drivers, hippies, circus people, traveling musicians, lawyers, university professors, corporation presidents, dock workers, school teachers, lumberjacks, etc. What is normal behavior in one setting may be very abnormal behavior in another. So, what makes an individual seem "normal" is that persons ability to "fit in" in the environment and society in which he lives. Normalcy is the ability to comfortably cope with life in the society in which one lives. Normalcy has to do with being a "regular guy." It, most of all, has to do with being accepted by one's peers as being "like them." It means the ability to comfortably behave as others do in most settings in which the individual operates.

Relevance to the Blind

Now, let's look at how all of this effects the blind or visually handicapped individual. If being normal means being

LIKE OUR PEERS IN MANY SOCIALLY ACCEPTED WAYS, HOW LIKE THEIR PEERS ARE OUR VISUALLY IMPAIRED STUDENTS? LET'S BEGIN BY CONSIDERING THEIR PHYSICAL APPEARANCE. DO WE SUGGEST CLOTHING, HAIR STYLES, GROOMING, SHOES, ETC. ACCORDING TO OUR ADULT IMPRESSIONS OF WHAT IS APPROPRIATE, OR DO WE ASSIST OUR STUDENTS IN DETERMINING WHAT IS ACCEPTABLE TO OTHERS THEIR AGE. DO WE SEE TO IT THAT OUR BLIND TEENAGE BOYS HAVE THE CLOSE CROPPED HAIRCUTS THAT WE PREFER, OR DO WE ENCOURAGE THE LOOSER HAIRED DRY LOOK OF THEIR CONTEMPORARIES? DO WE INSIST THAT OUR BLIND GIRLS WEAR MID-VICTORIAN ANKLE LENGTH DRESSES AND THE HIGH COLLARED LONG SLEEVE BLOUSES THAT GRANDMA CONSIDERED CHASTE AND PROPER, OR DO WE ACQUAINT THEM WITH THE TIGHT FITTING, BELL BOTTOMS WORN WITH NO BRA,T-SHIRTS OR HALTER TOPS? DO WE EXPLAIN THAT DIFFERENT DRESS IS APPROPRIATE FOR DIFFERING OCCASIONS? DO WE ATTEMPT TO IMPOSE MIDDLE CLASS, MIDDLE AGED SOCIAL AND DRESS STANDARDS, OR DO WE TRY TO ASSIST THEM IN CONFORMING TO THE STANDARDS OF OTHER KIDS THEIR AGE?

NEXT, LET'S LOOK AT SPEECH PATTERNS. DO OUR STUDENTS SOUND LIKE "LITTLE LORD FAUNTLEROY" AND "MARY WORTH," OR MORE LIKE OTHER TEENAGERS? DO WE ASSUME THAT THE SUNDAY SCHOOL TEA PARTY CONVERSATIONAL VOCABULARY IS THE STANDARD TO STRIVE FOR OR DO WE EXPOSE BLIND STUDENTS TO THE TEENAGE VERNACULAR OF TODAY? HOW ABLE ARE THEY TO DISCUSS TOPICS OF INTEREST WITH THEIR PEERS?

WHAT ABOUT THE SOCIALIZATION PROCESS? ARE WE PROVIDING EXPOSURE AND EXPERIENCES THAT ALLOW VISUALLY HANDICAPPED CHILDREN TO BECOME AS WORLDLY AND KNOWLEDGEABLE AS THEIR CONTEMPORATIES, OR DO WE PROTECT THEM FROM "CRUDE LANGUAGE", "SEXUALITY", "EMOTION", AND ALL THE OTHER EXPERIENCES THAT MAKE UP THE WORLD IN WHICH

OTHER CHILDREN LIVE AND GROW AND LEARN TO BE NORMAL, WELL ADJUSTED MEMBERS OF SOCIETY? DO OUR STUDENTS HAVE OPPORTUNITIES FOR NORMAL, UNSTIFLED SEXUAL GROWTH, DEVELOPMENT, AND MATURATION, OR ARE THEY MORE LIKE THE 17 YEAR OLD, CONGENITALLY BLIND GIRL I ONCE ENCOUNTERED? THIS GIRL WAS AN ACADEMICALLY CAPABLE, ABOVE AVERAGE INDIVIDUAL INTELLECTUALLY, AND APPEARED QUITE PERSONABLE AND SOCIALLY WELL ADJUSTED. YET, SHE CAME TO ME IN TEARS BECAUSE SHE WAS CONVINCED SHE WAS PREGNANT. SHE HAD GREAT DIFFICULTY EXPLAINING HOW THIS TRAGIC MISTAKE HAD COME ABOUT. AFTER MUCH PROBING, ACCOMPANIED BY HEART RENDERING SOBS, THE STORY SURFACED. SHE HAD RECEIVED HER FIRST KISS FROM A BOY.

HOW DO OUR BLIND STUDENTS STACK UP WITH THEIR AGE MATES IN TERMS OF SELF SUFFICIENCY AND INDEPENDENCE? CAN THEY TRAVEL FROM PLACE TO PLACE INDEPENDENTLY? IS THEIR CARRIAGE AND POSTURE RELAXED AND NATURAL? DO THEY FACE OTHERS WHEN CONVERSING WITH THEM? CAN THEY TAKE CARE OF THEIR OWN PERSONAL AND GROOMING NEEDS? HOW DO THEY COPE WITH PUBLIC RESTROOMS, RESTAURANTS, BOWLING ALLEYS, CITY BUSES, AIR TRAVEL, TAXI CABS, DEPARTMENT STORES, GROCERY SHOPPING, APARTMENTS, ETC? WHAT ABOUT DATING, PARTIES, SOCIAL GATHERINGS, BOY-GIRL RELATIONSHIPS, INTERESTS AND RECREATIONAL SKILLS?

HOW IS THEIR "VISUAL INDEX"? DO THEY LOOK AND ACT FOR THE MOST PART LIKE THEIR SIGHTED COUNTERPARTS? ARE THEY EFFICIENT AND NATURAL IN THE USE OF SPECIAL TOOLS SUCH AS TRAVEL AIDS, COMMUNICATION DEVICES, OPTICAL AIDS, MECHANICAL DEVICES, AND OTHER COMPENSATORY TOOLS? ARE THEY SMOOTH AND UNOBTRUSIVE IN THE USE OF TACTILE EXPLORATION OF THE ENVIRONMENT? DO THEY MAKE MAXIMAL USE OF AUDITORY AND OLFACTORY CLUES?

Normalcy and the Success Syndrome

This may be a good place to stop and consider just why we are discussing this topic of normalcy in the first place. The answer is really simple. This factor of normalcy is beyond question the most important area of concern with all handicapped individuals and is especially important for the blind and visually handicapped. Just stop and think for a moment about blind persons you have known. Think about the ones you consider to be the most successful. Think about which ones are most popular and most respected. They are probably very different from each other in many, many ways. Yet, I would venture to bet that they have one thing in common. I'll bet they seem to "fit in". I'll bet they seem very normal. I'll go further to state that their behavior is probably such that you tend to focus on their personality, skills, and assets when you are with them and that their blindness quickly recedes into the background of your conscious reactions to them. I wouldn't be surprised to learn that at times you completely forget that they are blind and try to show visual materials such as photographs, articles, etc. The reason for this is that the person has a realistic grasp of the world around him. He is physically and mentally attuned to the environment and thereby at ease with himself and with others. The result is that he projects a positive image of himself as a normal person. This comfortable, personable projection is reflected back to him by others because they respond to him primarily as a person and not primarily as a blind person. This positive, mutual reinforcement is contagious and self-expanding. This effect clearly explains the "relevance of normalcy".

Setting the Priorities

Now, what needs to be done from the viewpoints of education and rehabilitation of the blind and visually handicapped? First, we need to correctly sequence our priorities. I'd be the first to agree that everyone should have as much academic education as they can tolerate. I would concur with the notion that educational opportunity is one of the factors that has made this nation what it is today. Even so, if I could only have enough funds and resources to provide part of what blind children need, my first priority would not be academic education. By this, I'm not suggesting that academic studies and a formal grounding in the traditional curriculum of our schools is unimportant. What I am saying is that this portion of the blind child's education does not get at those things about blindness that are debilitating. Many programs for the blind and visually handicapped in the schools of the United States do a pretty good job of providing the traditional academic education. However, I dare say that most programs do little or nothing to provide the kinds of specialized skills training so sorely needed in the areas which really restrict the blind individual. Even those programs which address such areas are often below par either in quality or volume. I'm talking about such areas of endeavor as total orientation and mobility training, self-help skills, the socialization process, interpersonal relations, human sexuality, real life experiences -- an uncensored, unfiltered look at the real world as it actually is. Without emphasis on these crucial areas, how can we expect the blind and visually handicapped children with whom we work to compete and interact with their sighted counterparts? The answer is quite clear. Without intensive, systematic, effective programs in

THESE IMPORTANT CATEGORIES, WE CAN COUNT ON THE MAJORITY OF OUR STUDENTS EXPERIENCING ENORMOUS LIFE ADJUSTMENT PROBLEMS AND AN INORDINATE PERCENTAGE OF FAILURE.

WHAT WE NEED TO DO IS CLEARLY FOCUS ON THE OBJECTIVES OF PROGRAMS FOR OUR STUDENTS. OUR PRIMARY TARGET IS THE DEVELOPMENT OF NORMAL, WELL-ADJUSTED, SELF-SUFFICIENT, CONTRIBUTING MEMBERS OF SOCIETY. IN ORDER TO HIT THIS TARGET WE MUST BE COGNIZANT OF THE NEEDS OF OUR STUDENTS, FROM THEIR PERSPECTIVE AS WELL AS FROM OURS. EVERYTHING IN SCHOOL MUST HAVE RELEVANCE FOR OUR STUDENTS. WE MUST SHOW OUR STUDENTS THE "WHY" BEHIND THE SUBJECTS WE TEACH. WE DON'T TEACH SUBJECTS, WE TEACH HUMAN BEINGS. WE DON'T SHOVE INFORMATION INTO THEIR HEADS, WE PROVIDE A CLIMATE IN WHICH THEY HAVE THE OPPORTUNITY TO LEARN AND GROW AND DEVELOP. KIDS GET TURNED OFF BY SCHOOL BECAUSE THEY CAN'T SEE THE POINT OF IT. THEY NEED TO BE SHOWN THE REASON FOR LEARNING. THE REASON IS TO BE BETTER ABLE TO LIVE IN THIS WORLD. IN ORDER FOR THIS TO OCCUR, OUR STUDENTS MUST BE ABLE TO OPERATE INDEPENDENTLY, MAKE DECISIONS, HAVE NORMAL EXPERIENCES, DEVELOP SELF RESPECT, AND MAKE MISTAKES. THE EMPHASIS MUST, THEREFORE, BE ON THE DEVELOPMENT OF THE SPECIAL SKILLS THAT COMPENSATE AS MUCH AS POSSIBLE FOR THE ABSENCE OF SIGHT. ONLY THROUGH THIS ROUTE CAN THE DOORS BE OPENED TO ALLOW THE NORMAL GROWTH AND DEVELOPMENT WHICH IS SO ESSENTIAL TO THE OPPORTUNITY TO PURSUE LIFE IN OUR SOCIETY. ORIENTATION AND MOBILITY, SELF-CARE SKILLS, AND SOCIAL NORMALIZATION MUST HAVE A CENTRAL POSITION IN ALL OF THE PROGRAMS FOR BLIND INDIVIDUALS. SYSTEMATIC, MEANINGFUL, EFFECTIVE PROGRAMS MUST BE DEVELOPED AND IMPLEMENTED. THE REAL NEEDS OF THE BLIND MUST BE RECOGNIZED AND GIVEN THE HIGHEST PRIORITY. THESE NEEDS MUST BE MET BY THE

IMPLEMENTATION OF INTENSIVE PROGRAMS CONDUCTED BY PROFESSIONALS TRULY DEDICATED TO THEIR SUCCESS. THAT MEANS EACH AND EVERY ONE OF US MUST ACT AND ACT NOW IF WE ARE TO ACHIEVE OUR PRIMARY MISSION -- TO PROVIDE THE CLIMATE AND OPPORTUNITY FOR NORMALCY.

CAREER EDUCATION AND THE VISUALLY HANDICAPPED

IN ORDER TO UNDERSTAND THE CAREER EDUCATION RELATED NEEDS OF THE VISUALLY HANDICAPPED, IT IS FIRST IMPORTANT TO REVIEW CAREER EDUCATION IN GENERAL. AGAINST THIS FRAME OF REFERENCE SOME UNIQUE NEEDS OF THE VISUALLY HANDICAPPED GAIN GREATER PERSPECTIVE.

AN OVERVIEW OF CAREER EDUCATION REVEALS THAT THE CONCEPT ENCOMPASSES THE ENTIRE SCHOOL PROGRAM. IT IS A PROCESS OF UNIFICATION OF THE CURRICULUM WITH THE CAREER GOALS UNDER CONSTANT CONSIDERATION. DURING THE 1970'S, SCHOOLS WILL WORK WITH APPROXIMATELY 26 MILLION STUDENTS. OUT OF EVERY 10 YOUNGSTERS IN GRADE SCHOOLS NOW, THREE WILL NOT FINISH HIGH SCHOOL, AND EIGHT OUT OF TEN WILL NOT FINISH FOUR YEARS OF COLLEGE. THE JOB OF EDUCATION THEN, IS TO HELP STUDENTS PREPARE FOR THE CHANGING WORLD OF WORK. UNDER THE BROAD UMBRELLA OF CAREER EDUCATION ARE FOUND THE AREAS OF OCCUPATIONAL EDUCATION AND TECHNOLOGY, ACADEMIC EDUCATION, COMMUNITY INVOLVEMENT, AND GUIDANCE AND COUNSELING. AS THE K THROUGH 6 STUDENTS BECOME INVOLVED IN HEALTH, SPELLING, SCIENCE, ENGLISH, READING, SOCIAL STUDIES, ART, MATHEMATICS, AND PHYSICAL EDUCATION, THE CONCEPTS OF CAREER EDUCATION ARE INTERWOVEN WITH THE CURRICULUM. AN AWARENESS OF THE WORLD OF WORK LEADS TO CAREER INVESTIGATION AND ORIENTATION THROUGH ACTIVITIES COVERING SUCH TOPICS AS VALUES OF

WORK, DIGNITY OF WORK, WHY PEOPLE WORK, JOB OPPORTUNITIES, ATTITUDES, VALUES, AND MOTIVATION. AS THE AWARENESS STAGE PROGRESSES, THE DEVELOPING SELF UNDERSTANDING AND INFORMATION BUILD UP EMPIRICALLY TO LEAD TO DECISION-MAKING SKILLS. AS THE STUDENT PROGRESSES THROUGH THE SEVENTH AND EIGHTH GRADES, THE INFORMATION BASE IS BROADENED TO INCLUDE MORE DETAILED OCCUPATIONAL INFORMATION, INCLUDING SKILLS, EDUCATION, AND PHYSICAL REQUIREMENTS OF VARIOUS JOBS AND JOB CLUSTERS. INCLUDED IS INFORMATION REGARDING JOB ENTRY REQUIREMENTS, DEVELOPING JOB INTERESTS, SELF APPRAISAL, JOB OPPORTUNITIES, AND TRAINING OPPORTUNITIES. MORE INFORMATION IS BROUGHT INTO PLAY REGARDING PRESENT AND FUTURE SALARY OPPORTUNITIES IN VARIOUS OCCUPATIONAL FIELDS ALONG WITH MORE AND MORE INFORMATION DESIGNED TO HELP THE INDIVIDUAL IN PERSONAL DECISION-MAKING REGARDING EDUCATIONAL PLANS AND OCCUPATIONAL CHOICES. CAREER EXPLORATION AND INVESTIGATION DURING THE NINTH AND TENTH GRADES SHOULD BE ACHIEVED THROUGH HANDS ON EXPERIENCES IN LABORATORIES, SHOPS, AND THROUGH EXPERIENCES IN VARIOUS COMMUNITY RESOURCES. A COMBINATION OF THE OPPORTUNITIES FOR EXPLORATION AND EXPERIENCES PROVIDED THROUGH THE SCHOOL, HOME, AND COMMUNITY HELPS THE STUDENT TO EXAMINE FURTHER HIS OR HER OWN INTERESTS, APTITUDES, AND ABILITIES. DURING THE ELEVENTH AND TWELFTH GRADES THE AREAS OF AWARENESS, ORIENTATION, INVESTIGATION, AND EXPLORATION TEND TO BECOME MORE FOCUSED THROUGH COMPREHENSIVE COURSE OFFERINGS PLUS THE OPTIONS OF DEVELOPING SPECIFIC VOCATIONAL SKILLS, APPRENTICESHIP EXPERIENCES, AND ON-THE-JOB TRAINING, BY THE TIME OF COMPLETION OF HIGH SCHOOL, THE INDIVIDUAL SHOULD BE EQUIPPED TO MAKE DECISIONS REGARDING CAREER AND/OR COLLEGE TRAINING. THE SKILLS FOR LAYING OUT AND SUBSEQUENTLY, MODIFYING

THE BLUEPRINT FOR LIFE ARE DEVELOPED THROUGH THE CAREER EDUCATION MODEL, THEREBY GIVING MEANING AND PURPOSE TO THE EDUCATIONAL EXPERIENCE. ADDITIONALLY, THE TREND IS MORE AND MORE MOVING IN THE DIRECTION OF EMPHASIS ON THE RESPONSIBILITY OF THE SCHOOL FOR PLACEMENT OF THE INDIVIDUAL.

CASUAL REFERENCE TO THIS CAPSULE OF CAREER EDUCATION MIGHT LEAD TO THE CONCLUSION THAT THESE ARE THE NORMAL ACTIVITIES OF MOST SCHOOLS. TO SOME EXTENT THIS IS TRUE. THE POINT OF MAJOR IMPORTANCE IS THE CONSTANT FOCUS ON THE OBJECTIVES OF THE TOTAL EDUCATIONAL EXPERIENCE. SUBJECT MATTER IN ISOLATION AND WITHOUT A CLEAR LINK TO ITS USE AND PURPOSE HAS BEEN THE CAUSE OF CONFUSION TO MANY STUDENTS. EDUCATORS WHO HAVE LOST SIGHT OF THE REASON FOR EDUCATION HAVE CONTRIBUTED TO THE DILEMMA. CAREER EDUCATION, THEN,IS A SYSTEMATIC AND INTEGRATED APPROACH TO TRULY PREPARING THE INDIVIDUAL TO COPE WITH HIS OR HER CAREER IN A CHANGING WORLD.

ALL OF WHAT HAS BEEN COVERED SO FAR CERTAINLY HAS RELEVANCE FOR THE EDUCATION OF THE BLIND AND VISUALLY HANDICAPPED. HOWEVER, IT IS ESSENTIAL TO ADD SOME OTHER CONSIDERATIONS. INCLUDED IN THESE ARE THE IMPORTANCE OF SPECIAL COMPENSATORY STUDY SKILLS, ACTIVITIES OF DAILY LIVING, ORIENTATION AND MOBILITY, A HIGH VISUAL INDEX, SOCIAL SKILLS, AND AVAILABILITY OF CAREER AND OCCUPATIONAL INFORMATION. RATHER THAN ATTEMPT TO ATTACK ALL OF THESE AREAS HERE, THE FOCUS WILL BE ON TWO AREAS -- SOCIAL DEVELOPMENT AND CAREER INFORMATION.

IN A RECENT STUDY BY THIS AUTHOR, VARIOUS AREAS OF SCHOOL PROGRAMS FOR THE VISUALLY HANDICAPPED WERE EXAMINED IN THE LIGHT OF THE DESIRES OF EX-STUDENTS. WHEN THE AREA OF STUDENT LIFE WAS INVESTIGATED, THE EX-STUDENTS MADE THEIR OPINIONS VERY CLEAR. THE

INDIVIDUALS WHO DEMONSTRATED THE HIGHEST DEGREES OF PERSONAL INDEPENDENCE IN SUCH CATEGORIES AS ORIENTATION AND MOBILITY, PERSONAL SELF CARE SKILLS, AND ABILITY TO INTEGRATE INTO THE SIGHTED COMMUNITY WERE THE ONES WHO RECOMMENDED THE MOST LIBERAL SOCIAL LIVING ENVIRONMENT FOR THE BLIND AND VISUALLY HANDICAPPED IN SCHOOL. THIS WAS TRUE OF BOTH COLLEGE STUDENTS AND THE INDIVIDUALS WHO PURSUED SOME OTHER CAREER DIRECTION. THE ADMINISTRATORS OF THE PROGRAMS STUDIED STRONGLY CONCURRED WITH THIS. IF THE BLIND OR VISUALLY HANDICAPPED INDIVIDUAL IS TO COMPETE WITH HIS OR HER SIGHTED PEERS, IT IS ESSENTIAL THAT NORMAL SOCIAL DEVELOPMENT EXPERIENCES BE NOT ONLY ALLOWED, BUT EMPHASIZED. THIS MEANS BOY-GIRL RELATIONSHIPS, INDEPENDENCE OF MOVEMENT, DECISION-MAKING OPPORTUNITY, A WIDE RANGE OF SOCIAL INTERACTIONS, UNCENSORED INFORMATION SOURCES, AND THE OPPORTUNITY TO MAKE MISTAKES AND PROFIT THEREBY. IT FURTHER MEANS THAT OPPORTUNITIES MUST BE PROVIDED TO LEARN THE SOCIAL MORES BY INTERACTION AND INVOLVEMENT AND THE OPPORTUNITY FOR HONEST FEEDBACK TO ESTABLISH A FRAME OF REFERENCE. IN THIS AUTHOR'S OPINION, THE MOST DAMAGING POSSIBILITY IS THE STIFLING EFFECT OF OVER-PROTECTION. IF NORMAL SOCIAL DEVELOPMENT IS TO OCCUR, THERE MUST BE A CLIMATE OF OPENNESS, HONESTY, AND OPPORTUNITY FOR THE SAME REAL LIFE EXPERIENCES ENCOUNTERED BY THE SIGHTED PERSON. THROUGH NORMAL SOCIAL DEVELOPMENT, THE BLIND AND VISUALLY HANDICAPPED WILL HAVE A MUCH GREATER OPPORTUNITY TO TAKE ADVANTAGE OF THE CAREER EDUCATION OPPORTUNITIES OUTLINED EARLIER.

THERE HAS ALWAYS BEEN A DEARTH OF CAREER AND OCCUPATIONAL INFORMATION MATERIALS IN THE MEDIA WHICH CAN BE INDEPENDENTLY UTILIZED BY THE VISUALLY HANDICAPPED. REGION XIX EDUCATION SERVICE CENTER IN EL PASO, TEXAS IS PLANNING AN ACTIVITY FOR THE 1974-75

SCHOOL YEAR WHICH IS DESIGNED TO MAKE MORE INFORMATION OF THIS TYPE AVAILABLE. THROUGH A PROJECT TO BE FUNDED BY THE TEXAS EDUCATION AGENCY, PLANS ARE UNDERWAY TO IDENTIFY AND CATEGORIZE THE CAREER INFORMATION NEEDS OF GRADE 9 BLIND AND VISUALLY HANDICAPPED STUDENTS BY SURVEYING A SAMPLE OF RESIDENTIAL AND PUBLIC SCHOOL STUDENTS AND STAFF. THE INFORMATION GAINED WILL BE ANALYZED BY AN ADVISORY PANEL OF EXPERTS. THIS ANALYSIS WILL BE INTERFACED WITH VITAL INFORMATION FOR EDUCATION AND WORK ALREADY DEVELOPED BY REGION XIX EDUCATION SERVICE CENTER. CAREER INFORMATION MATERIALS WILL BE SELECTED, MODIFIED, AND FIELD TESTED. THE FIELD TESTS WILL BE CONDUCTED IN VARIOUS PROGRAMS FOR THE VISUALLY HANDICAPPED IN ORDER TO GAIN MORE INFORMATION PRELIMINARY TO PREPARING PROTYPE PACKAGES IN BRAILLE, RECORDED FORMS, ETC, FOR BROAD DISTRIBUTION. AT THE CONCLUSION OF THE FIRST YEAR A SUMMARY REPORT AND RECOMMENDATIONS FOR FURTHER ACTION WILL BE PREPARED. IT IS ANTICIPATED THAT THIS PROJECT WILL BECOME THE VEHICLE FOR PREPARING A LARGE NUMBER OF MATERIALS PACKAGES IN VARIOUS AREAS OF OCCUPATIONAL AND CAREER EDUCATION, THEREBY MAKING THE CAREER EDUCATION MODEL DESCRIBED MORE ATTAINABLE FOR THE VISUALLY HANDICAPPED.

IT IS CLEAR THAT THE IMPLEMENTATION OF THE CAREER EDUCATION MODEL WILL GREATLY STRENGTHEN PROGRAMS FOR THE BLIND AND VISUALLY HANDICAPPED. IN ORDER TO ACTUALIZE SUCH PROGRAMS, IT WILL BE NECESSARY TO INTEGRATE ALL OF THE SPECIAL TRAINING ASPECTS OF EDUCATION OF THE BLIND AND VISUALLY HANDICAPPED INTO THE PROGRAM IN THE SAME WAY THAT CAREER EDUCATION IS INTEGRATED WITH THE REGULAR CURRICULUM. SOCIAL SKILLS AND CAREER INFORMATION DEVELOPMENT

SIMPLY PROVIDE SOME OF THE SPECIAL INGREDIENTS NEEDED. THESE, COMBINED WITH ORIENTATION AND MOBILITY AND ACTIVITIES OF DAILY LIVING, WILL SUPPORT THE DEVELOPMENT OF COMPLETE PROGRAMS, PROPERLY RECOGNIZING THE UNIQUE NEEDS OF THE BLIND AND VISUALLY HANDICAPPED.

Frances Peters

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THE ACCOUNTABILITY OF PUBLIC LIBRARIANS IN SERVING THE VISUALLY HANDICAPPED: A NEW COMMITMENT

One lovely afternoon this Spring I had the pleasure of visiting a classroom of fourth graders in a school on Cleveland's West Side. The building was modern, bright and airy, and the classroom for visually handicapped children was no less colorful and comfortable. The class was studying a unit about wildlife conservation, and the teacher had asked me to select several Talking Books on that subject and to introduce those titles to the children. I brought along such guaranteed favorites as The New Noah and Nature Sleuths as well as some exciting Indian legends like Badger, the Mischief Maker, a story which illustrates the appreciation the American Indians had for their animals and the land.

The children were all very enthusiastic and eager to take part in discussion, and things were going along just fine until one tall young lad (who had the unmistakable look of a "mischief maker" himself) waved his arm for attention and blurted, "I'd like to know something about the buffalo!" "Fine, Marvin," said the teacher encouragingly, "Why don't you ask the librarian to give you some good books about the Buffalo?" "Well, gee," said Marvin with a shy smile, "I don't want to know THAT much about it!" I'm sure I never knew the meaning of "left-handed compliment" until that moment. It seems so natural for teachers and librarians to be working together to interest young people in books and the pleasures of reading that we sometimes forget that it was not always so.

Once upon a time, about a hundred years ago, there were no special services for children in American public libraries. "Dogs and children not Allowed" was the policy often posted on library entrance doors. When the Cleveland Library opened in 1869, children were permitted to read on the premises, but only those fourteen years or older were allowed to withdraw books "under the name of the responsible head of the family." Two years later, the President of the Cleveland Board of Education *deplored* the fact that "a large ratio of the readers (in the library) are boys and girls from ten to eighteen years of age." By 1876, the circulation of juvenile books had reached 15.4% of the total, a statistic which disturbed the Library's Director. In his annual report for 1879 librarian Irad L. Beardsley wrote, "There is such an eager desire for sensational reading on the part of youth that it has been deemed a necessity to restrict drawings, on the part of those attending school, to once a week." Indeed, Mr. Beardsley disapproved of most juvenile books anyway "because they inculcated exagerrated ideas and put out of view the stern realities to the rising generation." He believed that the "proper business of boys and girls is in the schoolroom."

This philosophy of prohibiting the "lingering" of children in the library was not uncommon during the nineteenth century and may have been a legacy from the Puritan era when children were regarded as full of sin and badly in need of salvation. Jared Bean, who issued the Old Librarian's Almanac in 1773, had advised librarians that "no Person younger than twenty

YEARS (SAVE IF HE BE A STUDENT OF MORE THAN EIGHTEEN YEARS AND VOUCHED FOR BY HIS TUTOR) IS ON ANY PRETEXT TO ENTER THE LIBRARY. FOR THE TREASURE HOUSE OF LITERATURE IS NO MORE TO BE THROWN OPEN TO THE RAVAGES OF THE UNREASONING MOB THAN IS A FAIR GARDEN TO BE LAID UNPROTECTED AT THE MERCY OF A SWARM OF BEASTS."

FURTHERMORE, HE WARNED, "BE SUSPICIOUS OF WOMEN. THEY ARE GIVEN TO THE READING OF FRIVOLOUS ROMANCES, AND AT ALL EVENTS, THEIR PRESENCE ADDS LITTLE TO (IF INDEED IT DOES NOT DETRACT FROM) THAT ASPECT OF GRAVITY, SERIOUSNESS, AND LEARNING WHICH IS ITS GREATEST GLORY."

NO INFECTIOUS GIGGLING AT STORY HOURS. NO BREATHLESS BOOK REPORTS BY SUMMER READING CLUB MEMBERS. NO FUN AT VACATION TIME PROGRAMS. AND ABSOLUTELY NO FEMALE LIBRARIANS GUIDING YOUTHFUL READING. IN OTHER WORDS, NO LIBRARY JOY FOR OLD JARED AT ALL!

HOW TIMES HAVE CHANGED. FULLY TWO HUNDRED YEARS AFTER JARED BEAN'S DIRE WARNINGS, THE FAIR GARDEN HAS BEEN OPENED TO THE SWARM OF BEASTS AND LIBRARY SERVICE TO CHILDREN AND YOUNG PEOPLE IS A THRIVING, EXCITING, REWARDING FIELD.

AND ALTHOUGH LIBRARY SERVICE TO CHILDREN WITH SPECIAL NEEDS WAS EVEN LONGER IN COMING, IT IS NOW A RECOGNIZED NECESSITY AS AN INCREASING NUMBER OF PUBLIC LIBRARIANS AWAKEN TO THEIR RESPONSIBILITIES IN THIS AREA.

SINCE 1935, THE LIBRARY OF CONGRESS HAS PROVIDED FOR CHILDREN'S SERVICES THROUGH THEIR NATIONAL NETWORK OF REGIONAL LIBRARIES FOR THE BLIND AND PHYSICALLY HANDICAPPED. AS SOURCES of good, satisfying recreational reading, the Regional Libraries directly answer the special child's need for books in Large Type, Braille, tape or disc. Braille and Talking Books stretch and tickle the child's imagination and take him beyond the boundaries of his often limited personal experience. He can meet a pirate, a cattle rustler, a Canadian Mountie, or a princess. He can steal away to the dark, wet African jungles, or breathe in the crisp, cold air of the Swiss Alps. He might live in an Alaskan igloo with a sled dog team, or on a Mississippi riverboat with a traveling band of actors. He can talk with a boy who knew Paul Revere or chat with Ben Franklin's cat, take a ride on a time-machine back to the Gold Rush days or forward through time to a space colony on Mars. He can ride the Black Stallion to an exciting first place finish in the Kentucky Derby or solve a mystery with the Hardy Boys - all through his Talking Books!

Although textbooks are not a part of the Library of Congress program, the older student knows that he can rely on the Regional Library's collection for the standard British and American classics that he must read for school, and for most of the books on his school's required outside reading list.

There are fifty-three Regional Libraries in the Library of Congress network, so by necessity, each Regional serves a rather large geographical area. The Cleveland Regional Library is responsible for extending service to the 12,000 handicapped readers in the fifty-five northern Ohio counties. Communication depends largely upon the U.S. Postal Service

WHICH BRINGS THE BOOKS AND RECORDS TO THE READERS, AND IS FACILITATED BY THE WATS LINE WHICH ENABLES PATRONS TO SPEAK DIRECTLY TO A LIBRARIAN BY PHONE AT NO PERSONAL CHARGE.

A FEW YEARS AGO I TRIED TO FIND OUT IF THE SMALL CHILDREN WHO WERE RECEIVING TALKING BOOKS HAD ANY IDEA THAT THEY WERE BORROWING BOOKS FROM A LIBRARY. THE CHILDREN I TALKED WITH ALL KNEW WHAT A "BOOK" WAS AND WERE DELIGHTED TO LEARN THAT I HAD SOMETHING TO DO WITH CHOOSING STORIES THAT THEY WOULD ENJOY READING. BUT WHEN I TURNED THE DISCUSSION TO WHERE THE BOOKS ACTUALLY CAME FROM, THEIR LITTLE FACES BEGAN TO PUCKER AND ONE PUZZLED LITTLE FELLOW VOLUNTEERED THE INFORMATION THAT THE TALKING BOOKS CAME FROM THE SAME PLACE HIS CHRISTMAS PRESENTS DID - FROM SANTA'S WORKSHOP. (I GUESS HE MUST HAVE FIGURED THAT I WAS AN ELF.) WITH THE SCORN OF THOSE BORN WITHOUT SUCH FANCIFUL ILLUSIONS, A TINY LITTLE GIRL SAID IN AN EXASPERATED TONE, "SANTA DOESN'T BRING THE TALKING BOOKS, THE POSTMAN DOES!" AND TRY AS I WOULD, THAT WAS AS FAR AS WE GOT THAT DAY. NOT ONE OF THOSE CHILDREN CONNECTED READING AND BOOKS WITH THE IDEA OF A LIBRARY. THAT EXPERIENCE STARTED ME THINKING ABOUT HOW MANY VISUALLY HANDICAPPED CHILDREN REALIZE WHAT POTENTIAL FOR LEARNING AND ENJOYMENT WAITS WITHIN THE DOORS OF THEIR LIBRARY. AND WHEN I SAY "THEIR LIBRARY," I'M NOT REFERRING ONLY TO THEIR REGIONAL LIBRARY WITH ITS BRAILLE VOLUMES AND TALKING BOOKS; I MEAN THEIR NEIGHBORHOOD INKPRINT LIBRARIES.

MRS. EUNICE LOVEJOY WHO IS THE DEVELOPMENT CONSULTANT

FOR SERVICES TO THE HANDICAPPED AT THE STATE LIBRARY HERE IN COLUMBUS, HAS PREPARED AN EXCELLENT GUIDE TO THE RESOURCES AVAILABLE LOCALLY TO HANDICAPPED READERS IN THIS STATE. LIBRARIES FOR PEOPLE WITH HANDICAPS IS ARRANGED IN DIRECTORY FORM, LISTING ALPHABETICALLY BY TOWN THOSE LIBRARY BRANCHES WHICH OFFER PROGRAMS, SERVICES AND MATERIALS WHICH CAN BE USED BY HANDICAPPED PERSONS. IT BECOMES APPARENT THROUGH EUNICE'S DIRECTORY THAT IN ADDITION TO THE SPECIAL ACCOMMODATIONS SUCH AS LARGE TYPE BOOKS, WHEELCHAIR RAMPS AND VISUAL AID DEVICES, MANY LOCAL PUBLIC LIBRARIES HAVE VARIOUS OTHER HELPFUL RESOURCES. IN MANY NEIGHBORHOOD BRANCH LIBRARIES CHILDREN CAN LISTEN TO FULL-LENGTH NEWBERRY AWARD-WINNING BOOKS ON COMMERCIALLY PRODUCED CASSETTE TAPES WHICH COMBINE DRAMATIC SOUND EFFECTS AND MUSIC ALONG WITH THE NARRATION. MANY LOCAL LIBRARIES HAVE BEGUN INVESTING IN SPOKEN WORD RECORDINGS FOR THEIR COLLECTIONS. A STUDENT CAN CHECK OUT THE SPOON RIVER ANTHOLOGY BY MASTERS, AND HEAR IT PERFORMED BY THE ORIGINAL BROADWAY CAST, OR HE CAN SAVOR LEE J. COBB'S RENDITION OF THE WILLIE LOMAN ROLE IN DEATH OF A SALESMAN. CARL SANDBURG, EZRA POUND AND DYLAN THOMAS SPEAK THEIR OWN POETRY ONTO THESE LONG PLAYING DISCS. MANY LOCAL LIBRARIES HAVE ALBUMS CONTAINING SHIRLEY JACKSON'S READING OF HER SHORT STORY, THE LOTTERY AND BASIL RATHBONE'S VOICE NARRATING THE TELL-TALE HEART, AS WELL AS SUCH POPULAR FAVORITES AS DAVID FRYE'S ALBUM I AM THE PRESIDENT AND FLIP WILSON'S COMEDY ALBUMS. THE INTERESTED BORROWER CAN FIND MUSICAL RECORDINGS RANGING FROM MOZART TO THE ROLLING STONES TO SESAME STREET, RIGHT THERE IN HIS LOCAL LIBRARY.

The neighborhood branch libraries oftentimes sponsor activities, especially summertime activities, which provide an ideal chance for the handicapped child to meet new friends and discover interests he didn't know he had. Paging through a brochure which lists the summer programs planned for children by the branch libraries in the Cleveland Public Library system I noted talent shows, quilting parties, crochet classes, puppetry, magic shows, story hours, Summer Reading Clubs, live reptile programs, pet shows, stuffed pet shows, educational games, plays, field trips to the Zoo, Natural History Museum, etc., music appreciation clubs, chess clubs, model boat clubs, reading and math tutoring sessions, herbal and medicinal plant clubs, create-a-story sessions. What a rich, exciting variety of fun and what countless opportunities for friendship await the child who becomes acquainted with his own local library!

A less tangible but no less important aspect of a child's contact with his neighborhood library is the reading guidance given to him by the Children's Librarian. So many local librarians throughout the state have responded to this need of young Braille and Talking Book readers that it would not be fair to mention only a few names. Some young readers and their local librarians have even arranged to have Braille and Talking Books mailed to the local library instead of to the child's home, as is usually the case. With the opportunity for personal individual reading guidance, a child is more likely to develop a greater enthusiasm for his reading. A friendly chat with the librarian about a good story and an

EXCITING BOOK TO CARRY AWAY WITH HIM - CERTAINLY AN ATTRACTIVE IDEA FOR ANY YOUNG READER!

WHETHER OR NOT HE HAS BEEN FAMILIAR WITH THE LOCAL PRINT LIBRARY AS A CHILD, THE OLDER STUDENT FINDS THE LOCAL LIBRARY INCREASINGLY USEFUL TO HIM AS HE PROGRESSES THROUGH JUNIOR HIGH, SENIOR HIGH AND EVENTUALLY COLLEGE LEVEL STUDIES.

MIND-BOGGLING TECHNOLOGICAL ADVANCEMENTS SUCH AS THE OPTACON AND LASER VISUAL AID MAGNIFIERS ARE OPENING THE WORLD OF PRINT TO THE VISUALLY HANDICAPPED STUDENT AS NEVER BEFORE. HEAVY READING ASSIGNMENTS, OVERNIGHT READING ASSIGNMENTS, LIBRARY REFERENCE WORK: ALL PLAY A LARGE ROLE IN UPPER LEVEL STUDIES. AND AT ONE TIME OR ANOTHER THE VISUALLY HANDICAPPED STUDENT WILL FIND THAT HE MUST DRAW UPON THE RESOURCES OF AN INKPRINT LIBRARY. HE MAY COME IN WITH A HIRED "READER", HE MAY COME IN WITH AN OPTACON, BUT THE PUBLIC LIBRARIAN WILL NEED TO BE PREPARED TO DEAL WITH THE SPECIAL STUDENT'S NEEDS.

THE COMPLEXITIES OF AN INKPRINT LIBRARY MAY BE OVERWHELMING TO A STUDENT WHOSE PREVIOUS EXPERIENCE IN CHOOSING BOOKS HAS BEEN CHECKING OFF NUMBERS ON A _TALKING BOOKS TOPICS_ ORDER SHEET.

WHEN A STUDENT CONTACTS THE CLEVELAND REGIONAL LIBRARY TO SAY THAT HE NEEDS TO USE THE PRINT DEPARTMENTS OF CLEVELAND PUBLIC LIBRARY, THE STAFF MAKES A SPECIAL EFFORT TO HELP THE STUDENT GET ACQUAINTED WITH THE RESOURCES AND PHYSICAL COMPONENTS AND ARRANGEMENTS OF THE INKPRINT LIBRARY. A GENERAL DESCRIPTION OF THE DEWEY DECIMAL CLASSIFICATION SYSTEM MAKES THE STUDENT AWARE OF THE VARIETY OF MATERIALS HOUSED IN A MODERN INKPRINT

LIBRARY, AND OF THE ORGANIZATION NEEDED TO MAKE THE MATERIALS EASILY ACCESSIBLE TO THE BORROWER. SECURING A LIBRARY CARD SO THAT HE CAN CHECK OUT PRINT BOOKS AND FINE ARTS RECORDINGS ACQUAINTS THE STUDENT WITH HIS CORRESPONDING RESPONSIBILITIES AS PARTNER WITH THE LENDING LIBRARY. A PERSONAL CHAT WITH THE LIBRARIAN IN THE REFERENCE ROOM SHOWS THE STUDENT THE BACKBONE OF LIBRARY RESOURCES: THE ENCYCLOPEDIAS, ATLASES, ALMANACS, YEARBOOKS, INDEXES AND INFORMATION CATALOGS THAT WILL SIMPLIFY HIS RESEARCH EFFORTS. THE STAFF MEMBERS EXPLAIN THE ARRANGEMENT OF THE PUBLIC CARD CATALOG IN WHICH EACH BOOK IN THE LIBRARY IS REPRESENTED BY A TITLE CARD, AND AUTHOR CARD AND ONE OR MORE SUBJECT CARDS. THE STUDENT'S FAMILIARITY WITH THE CARD CATALOG, HIS UNDERSTANDING OF THE WAY THE READER'S GUIDE TO PERIODICAL LITERATURE IS ARRANGED, HIS AWARENESS OF THE TYPES OF INFORMATION TO BE HAD FROM THE NEWSPAPER AND MICROFILM COLLECTIONS STAND HIM TO GOOD ADVANTAGE WHEN HE IS REQUIRED TO DO THE INDEPENDENT RESEARCH THAT SO MANY CLASSES DEMAND. THE PROCESS OF LEARNING ABOUT THE LIBRARY, ITS RESOURCES, ITS ORGANIZATION, HELPS THE YOUNG PERSON FEEL MORE CONFIDENT AND COMFORTABLE IN USING THE SERVICES OF HIS NEIGHBORHOOD LIBRARY. IT IS A MAJOR RESPONSIBILITY OF EVERY PUBLIC LIBRARIAN TO ENSURE THAT THE SPECIAL CHILD IS WELCOMED INTO THE LIBRARY AT AN EARLY AGE AND INTRODUCED TO THIS LEARNING PROCESS.

I ONCE HEARD THE WORD "PESSIMIST" DEFINED AS A PERSON WHO TURNS ON THE LIGHT ONLY BECAUSE HE WANTS TO KNOW HOW DARK IT REALLY WAS. IN SPEAKING TO YOU TODAY I HAVE STRUCK AN OPTIMISTIC KEYNOTE FOR I REALLY DO FEEL THAT LIBRARIES AND LIBRARIANS ARE SINCERE IN THEIR EFFORTS TO REACH OUT AND EXTEND THE JOY

OF LIBRARIES TO ALL COMERS. "BOOKS BELONG TO EVERYONE," IS CERTAINLY MUCH MORE THAN AN EMPTY PHRASE: IT IS THE KEYSTONE OF MODERN LIBRARY POLICY.

BUT LET'S BE PESSIMISTIC FOR A MOMENT. LET'S JUST SUPPOSE THAT YOU, OR A STUDENT OF YOURS, TEEMING WITH CURIOSITY AND ENTHUSIASM, WALKS INTO A PUBLIC LIBRARY AND RUNS SMACK INTO THE ARMS OF A PUBLIC LIBRARIAN DESCENDED DIRECTLY FROM THE SPIRITUAL HERITAGE OF OLD JARED BEAN. WHAT'S TO BE DONE? DON'T DESPAIR! REMEMBER YOUR VERY FIRST EXPERIENCE INVOLVING A HANDICAPPED PERSON; YOU MAY HAVE BEEN JUST A LITTLE UNSURE, A BIT UNEASY ABOUT HOW TO PROCEED. SOME PEOPLE, EVEN SOME IN PROFESSIONAL POSITIONS, HAVE NOT HAD ENOUGH CONTACT WITH SPECIAL STUDENTS TO HAVE DEVELOPED THE POISE AND UNDERSTANDING WHICH IS NEEDED FOR A COMFORTABLE, FRIENDLY RELATIONSHIP. IF A LIBRARIAN REACTS EMOTIONALLY TO YOU OR A HANDICAPPED STUDENT, GET THE RELATIONSHIP ON A BUSINESS LEVEL AS QUICKLY AS POSSIBLE. TELL THE LIBRARIAN WHAT YOU NEED AND WHAT SORTS OF MATERIALS YOU CAN USE, FOR EXAMPLE, WHETHER OR NOT YOU HAVE A RECORD PLAYER FOR THE LONG-PLAYING SPOKEN WORD ALBUMS YOU WANT TO BORROW. FORTUNATELY, AS FAR AS MOST LIBRARIANS ARE CONCERNED, A BORROWER IS A BORROWER IS A BORROWER, AND ALL CAN EXPECT THE SAME HIGH QUALITY OF DEDICATED SERVICE. BUT IF A LOCAL LIBRARY IS NOT EXTENDING THE TYPE OF SERVICE YOU CAN REASONABLY EXPECT OF IT, MRS. EUNICE LOVEJOY, THE DEVELOPMENT CONSULTANT FOR LIBRARY SERVICES TO THE HANDICAPPED AT THE STATE LIBRARY IN COLUMBUS, CAN VERY OFTEN FORGE THE MISSING LINK AND PAVE THE WAY FOR A BETTER SITUATION. FOR

INDEED, THE FAIR GARDEN IS OPEN TO THE SWARM OF BEASTS, AND A WARM WELCOME WAITS WITHIN. BOOKS DO BELONG TO EVERYONE: IN OHIO WE LIBRARIANS BELIEVE IN THOSE WORDS, AND WE MEAN TO STAND BEHIND THEM.

Amie Dennison

Mrs. Dennison is currently employed in the Specialized Office for the Visually Impaired, and as Librarian and Assistant Director of the Instructional Materials Reference Center at the American Printing House for the Blind. She completed her graduate work at George Peabody College. Her professional experience includes teaching on the regular elementary level, teaching the visually impaired on a secondary level, and college instruction. Mrs. Dennison has the distinction of being twice chosen as Tennessee's "Teacher of the Year." She belongs to many professional organizations, and has numerous publications to her credit.

AIDS FOR TEACHING THE VISUALLY HANDICAPPED

The two Service Agencies being represented are different in funding, similar in response techniques, but identical in purpose or stated goal. The first agency, the American Printing House for the Blind (APHB), is an independent, non-profit, private corporation. It employs approximately 600, uses no volunteer services, and is expected to be financially solvent. A portion of its funding comes from the United States Government in the form of "Quota" Monies which are an annual appropriation for the education of the blind, according to the provisions of a Congressional Act of 1879.

The second agency, the Specialized Office for the Visually Impaired (SOVI), is an outgrowth of the Instructional Materials Reference Center (IMRC) for the Visually Impaired. The IMRC was one of the national centers in the former Special Education Instructional Materials centers (SEIMC) network. That network with its components was under a system of grants for complete financial support. Under the grants plan, the IMRC was mandated to provide services and to provide for research and development, working more or less independently as to what lines of service would be pursued.

Approximately two years ago (September 1974) the IMRC became a component of the new ALRC/SO/RRC network. As indicated by its titled, this network is made up of Area Learning Resource Centers (ALRC's), Specialized Offices (SO's 1,2,3,&4), and Regional Resource Centers (RRC's). It operates on a fiscal year contract system rather than the grant system of the former SEIMC network. The government thus far (two fiscal years) has designated the use for which contract monies are to be bid on contract. The Specialized Office for the Visually Impaired is

OBLIGATED TO CONTRIBUTE TO THE NATIONAL ABSTRACTING EFFORT. THIS IS FOR INPUT FOR THE NATIONAL RETRIEVAL SYSTEM WHICH IS UNDER WAY. ITS INTENT IS TO MAKE AVAILABLE INFORMATION REGARDING MATERIALS FOR STUDENTS AND TEACHERS IN THE SPECIAL PROGRAM OF SERVICE FOR THE HANDICAPPED THROUGHOUT THE NATION. INCLUDED ALSO IN THE CONTRACT IS FUNDING FOR RESEARCH AND DEVELOPMENT. NOT INCLUDED IS FUNDING FOR REFERENCE AND CONSULTATION SERVICES. THEREFORE, APHB NOW UNDERWRITES THESE SERVICES WHEN POSSIBLE AND WHEN OF POTENTIAL BENEFIT TO THE APHB'S ROLE. BOTH APHB AND THE TWO NETWORK COMPONENTS, IMRC AND SOVI, HAVE HAD ONE DOMINANT GOAL - TO PROVIDE SUPPORT FOR BETTER EDUCATIONAL MATERIALS, EQUIPMENT AND SERVICES FOR THE VISUALLY IMPAIRED STUDENT IN EDUCATIONAL SETTINGS.

THE DISPLAY OF MATERIALS FOR THIS WORKSHOP REPRESENTS THE MORE RECENT ITEMS AND THE ITEMS WHICH ARE MORE RELEVANT TO THE NEEDS BEING CONSIDERED UNDER THE THEME OF THIS WORKSHOP. EACH ITEM HAS ITS OWN BROCHURE WHICH IS A PART OF THE APHB'S SET OF CATALOGS, AVAILABLE ON REQUEST TO APHB. BELOW IS A LISTING OF THE ITEMS AND A BRIEF NOTATION ABOUT EACH ITEM DISPLAYED.

APH TALKING BOOK REPRODUCERS - MODEL TR-1000 (CAT. NO. 1-0096)

THIS REPRODUCER IS SMALL IN SIZE, WEIGHS ONLY A FEW POUNDS, AND INCORPORATES MANY NEW FEATURES WHICH MAKE IT VERY EASY TO USE. THE CASE IS OF LUGGAGE STYLE, CHARCOAL GREY IN COLOR, AND VERY STURDILY CONSTRUCTED WITH HEAVY METAL FITTINGS AND TRIM. THE PICKUP ARM PROVIDES LOCATION OF THE START OF 10 AND 12-INCH PHONOGRAPH RECORDS AND PROTECTS THE RECORD FROM ACCIDENTAL DAMAGE OR SCRATCHES FROM THE NEEDLE WHILE PLAYING. THE NEEDLE TRACKING-WEIGHT IS ONLY A FEW GRAMS; THUS, THE PICKUP IS TOO

LIGHT TO DAMAGE THE GROOVES OF THE RECORD IN ANY WAY.

THE AMPLIFIER IS OF THE LATEST SOLID-STATE DESIGN, INCORPORATING AN INTEGRATED CIRCUIT PROVIDING AN OUTPUT POWER OF 2 WATTS, WHICH IS MORE THAN ADEQUATE TO PLAY THE NEW 8-1/3 RPM RECORDS.

THE SPEAKER IS A COMPACT POLY-FOAM TYPE WHICH REQUIRES ONLY A SMALL CABINET BAFFEL TO PRODUCE GOOD SOUND.

THIS REPRODUCER WILL PLAY TALKING BOOK RECORDS RECORDED AT 33-1/3, 16-2/3, AND 8-1/3 RPM. THE SPEAKER IS MOUNTED IN THE LID, WHICH IS DETACHABLE FROM THE BASE WITH SUFFICIENT CORD SO THAT IT CAN BE PLACED APPROXIMATELY 1 FOOT FROM THE MACHINE. A 6-FOOT SPEAKER EXTENSION CORD IS ALSO AVAILABLE FOR PURCHASE SEPARATELY.

THIS REPRODUCER IS EQUIPPED WITH A MODEL 83-D DUAL-DIAMOND NEEDLE CARTRIDGE.

THE MODEL TR-1000 IS DESIGNED TO OPERATE ON 110-120 VOLTS, 60 CYCLES, AC ONLY. THE POWER CONSUMPTION IS 70 WATTS. A RESETABLE CIRCUIT-BREAKER IS PROVIDED, WHICH TAKES THE PLACE OF A FUSE.

HEADPHONES MAY BE SUBSTITUTED FOR THE SPEAKER AND SHOULD BE PURCHASED FROM THE APH.

APH TALKING BOOK REPRODUCERS - MODEL VTR-5000 (CAT. NO. 1-0097)

A VARIABLE-SPEED MODEL VTR-5000 APH REPRODUCER IS ALSO AVAILABLE, WHICH INCORPORATES THE SAME SPECIFICATIONS AS THE MODEL TR-1000, PLUS THE NEW APH ELECTRONIC VARIABLE-SPEED CONTROL. THIS SPECIAL FEATURE PERMITS THE USER TO SELECT (AT THE TURN OF A DIAL) ANY SPEED HE PLEASES -- FASTER OR SLOWER THAN THE SET SPEED OF THE TURN TABLE. THE NEW SPEED CONTROL IS OPERATED ON A

PRINCIPLE WHEREBY THE FREQUENCY OF THE ELECTRICITY SUPPLIED TO THE MOTOR IS VARIED; THUS THE MOTOR, WHICH IS OF THE FREQUENCY-STABILIZED TYPE, CHANGES SPEED WITHOUT LOSS OF POWER OR SPEED STABILITY.

APH-MODIFIED SONY 105 TAPE RECORDERS - STANDARD-SPEED MODEL (CAT. NO. 1-0091)

THE APH-MODIFIED SONY 105 TAPE RECORDER IS DESIGNED TO PROVIDE A SYSTEM OF TONE-INDEXING OF TAPES BEING RECORDED ON THIS MACHINE, FOR USE BY STUDENTS WHO NEED SOME MEANS OF LOCATING PARTICULAR RECORDED PASSAGES FOR REFERENCE OR LATER STUDY. IN EFFECT, THE ADAPTATION PROVIDES THAT, WHEN IN RECORD POSITION, A PUSHBUTTON LOCATED ON THE CONTROL PANEL WILL RECORD A LOW-FREQUENCY TONE ON THE TAPE BETWEEN PARAGRAPHS, PAGES, AND CHAPTERS.

MODEL 105 IS A PORTABLE, SOLID-STATE, 4-TRACK MONOPHONIC RECORDER WITH THE EXCLUSIVE SONY-MATIC AVC (AUTOMATIC VOLUME CONTROL) SYSTEM. THIS AUTOMATIC VOLUME CONTROL SYSTEM AUTOMATICALLY ADJUSTS THE RECORDING LEVEL FOR ANY PROGRAM MATERIAL AND MAINTAINS A UNIFORM RECORDING LEVEL WITHOUT TOUCHING A KNOB.

APH-MODIFIED SONY 105 TAPE RECORDERS - VARIABLE-SPEED MODEL (CAT. NO. 1-0092)

A VARIABLE-SPEED RECORDER IS ALSO AVAILABLE, WHICH INCORPORATES THE SAME SPECIFICATIONS AS THE STANDARD-SPEED MODEL, PLUS AN APH-DEVELOPED "SOLID-STATE" ELECTRONIC VARIABLE-SPEED CONTROL WHICH WILL PERMIT THE USER TO PLAY TAPES AT ANY SPEED HE MIGHT WISH. ON THIS MACHINE, TAPES MAY BE PLAYED FASTER OR SLOWER THAN ORIGINALLY RECORDED. THUS, THE USER CAN RECEIVE THE RECORDED INFORMATION AT HIS OWN RATE OF COMPREHENSION.

This control will increase the tape speed by 50% or will lower the speed by 100%. When the recorder speed-selector is set at 1-7/8 ips, the speed of the tape can be lowered to 15/16 ips, thus extending the practicable speed range of the recorder to this new slow standard speed.

APH MODIFIED GE MODEL CASSETTE TAPE RECORDER/PLAYER (Cat. No. 1-0715)

This cassette tape recorder/player has 2-speed, 4-track playback and 2-track recording capability and automatic end-of-tape shut-off. It is specially engineered and designed by APH and General Electric for educational use and the blind user, with features that make it a very useful and versatile tool for the most demanding user, yet is designed for easy operation to serve even the occasional user. Send for complete brochure.

APH VARIABLE SPEECH CONTROL MODULE- (Cat. No. 1-0710)

The new APH Variable Speech Control module (VSC) allows recorded speech to be increased or decreased without pitch distortion. Without Variable Speech Control, speech at increased speeds sounds like Donald Duck. Thus, the speaker's normal rate of delivery, around 150 words per minute, can be increased during playback from normal (150 words per minute) to 2.5 times normal (375 words per minute) or decreased to .7 of normal (105 words per minute). This means that a person can now listen at a rate comparable to the average sighted person's reading speed.

This Variable Speech Control module utilizes integrated circuits and operates on 120 Volts AC. It also has a power amplifier and speaker. Other features are a rate control, volume control, earphone jack, and off/on switch. A patch-cord and adaptor plug are supplied which will allow the Variable Speech Control module to be used with any APH Variable Speed playback machine (Sony, Talking Book, Cassette Tape Recorder/player).

NOTE: Although the Variable Speech Control module has been designed to work with APH Variable Speed playback machines, it may be used with any machine with variable speed capability.

GE COMFORT STYLE HEADSET (Catalog Number 1-0705)

This headset is less than one ounce, and was designed to be used with the strap under the chin.

These headsets can be used directly on the Sony TC105 and General Electric Cassette Recorders and with an adapter can be used with Reproducers or Multiple Headset Adapter.

APH MULTIPLE HEADSET ADAPTOR (Catalog Number 1-0094)

The APH Multiple Headset Adaptor provides a means to connect up to four pairs of headsets (earphones) simultaneously to one sound source, such as a tape recorder or a Talking Book reproducer.

The unit is mounted in a sturdy metal case, 5" x 4-¼" x 4-¼" in size, with a sloping front panel. The entire unit weighs

APPROXIMATELY 1-½ POUNDS. FOUR STANDARD PHONE JACKS ARE PROVIDED, WITH AN INDIVIDUAL VOLUME CONTROL MOUNTED ABOVE EACH JACK. A 6-FOOT CORD, WITH A PHONE PLUG, IS ATTACHED. ONLY HIGH IMPEDANCE HEADSETS, SUCH AS AVAILABLE FROM THE APH, SHOULD BE USED.

TYPEWRITING FOR BLIND STUDENTS (CATALOG NUMBER 1-0896)

THIS IS A RECORDED INSTRUCTIONAL PROGRAM DESIGNED TO TEACH STUDENTS THE FINGERING OF THE TYPEWRITER KEYBOARD AND TO DEVELOP SPEED AND ACCURACY IN ITS USE. THE PROGRAM CONSISTS OF A TEACHER'S MANUAL, 10 OPEN REEL TAPES TEACHING KEYBOARD FINGERING, AND 9 CASSETTES CONTAINING 17 PACED SKILL BUILDING EXERCISES. RECORDED GROUP INSTRUCTION IS USED TO TEACH THE KEYBOARD, WHILE THE SKILL BUILDING LESSONS ARE INDIVIDUALIZED.

SONIGUIDE (CATALOG NUMBER 1-0875)

THE SONIGUIDE WAS SPECIFICALLY DEVELOPED WITH THE MULTI-HANDICAPPED, BLIND INDIVIDUAL IN MIND. THE NEED WAS FOR THIS PERSON TO BECOME MORE PHYSICALLY INVOLVED IN THE TRAINING. THE DEVICE CONSISTS OF TWO SEPARATE UNITS, THE MASTER UNIT AND REMOTE UNIT, MEASURING 5 INCHES BY 7 INCHES BY 2-½ INCHES. THE MASTER UNIT, CONTAINING ALL OF THE ELECTRONICS, SPEAKER AND POWER, WEIGHS 3.5 POUNDS WHILE THE REMOTE UNIT CONTAINING ONLY A SPEAKER AND THE CORD WEIGHS 2.4 POUNDS. ALL INSTRUCTOR CONTROLS ARE CLUSTERED IN ONE END OF THE MASTER UNIT. THIS INCLUDES ON-OFF VOLUME CONTROL KNOB, AND TWO SLIDE CONTROLS FOR FREQUENCY (200-3500 HERTZ) AND PULSE-RATE (30-600 PER MINUTE). THE MASTER UNIT CAN BE USED INDEPENDENTLY OR AN AUDIO PLUG CAN BE INSERTED IN THE JACK PROVIDED IN THE CONTROL CLUSTER TO CONNECT THE MASTER AND THE REMOTE UNITS. THE MASTER AND THE REMOTE UNITS SIGNAL

TRANSFER, CALLED A "RESPONSE SWITCH," IS FOUND ON THE SURFACE OF EACH UNIT.

TACTUAL AIDS FOR READING (TAR) (CATALOG NUMBER 1-0374)

THE SET CONSISTS OF A COLLECTION OF OBJECTS, IDENTIFIED THROUGH EXTENSIVE TEXTBOOK ANALYSIS AND EVALUATION AS APPROPRIATE AIDS FOR USE IN BEGINNING READING PROGRAMS, AND A PAMPHLET ENTITLED "GUIDELINES FOR TEACHERS" WHICH OFFERS SUGGESTIONS FOR USING THE COLLECTION.

SURVEYS HAVE SHOWN THAT THE MAJORITY OF TEACHERS OF VISUALLY HANDICAPPED CHILDREN USE OBJECTS IN BEGINNING READING PROGRAMS. IT IS GENERALLY FELT THAT, WHEN CAREFUL THOUGHT AND CONSIDERATION ARE GIVEN TO THE PURPOSES FOR WHICH THEY ARE USED, THEY CAN BE HIGHLY EFFECTIVE EDUCATIONAL AIDS.

CONTENTS OF SET CURRENTLY AND AS DEMONSTRATED:

COLLECTION OF 175 OBJECTS

1 PAMPHLET, "GUIDELINES FOR TEACHERS"

4 CONTAINERS, 13" WIDE, 9-¼" WIDE, 9-¼" HIGH, 12-3/4" DEEP WITH A SHELF FOR EACH CONTAINER WHICH FITS HORIZONTALLY ACROSS IN THE MIDDLE.

4 DRAWER-TYPE INSERTS FOR EACH CONTAINER, 4" HIGH, 6" WIDE, 12" DEEP

ADDITIONAL CONTAINERS MAY BE PURCHASED WITH EACH SET, OR SEPARATELY.

GEOMETRIC FORMS (CATALOG NUMBER 1-0341)

THE GEOMETRIC FORMS AID WAS DESIGNED TO INTRODUCE TO PRIMARY LEVEL VISUALLY HANDICAPPED STUDENTS THE SHAPES OF A CIRCLE, SQUARE, AND TRIANGLE WHICH ARE REPRESENTED IN THE PRIMARY MATHEMATICS CURRICULUM AS CURVES, PLANE FIGURES, AND THREE

DIMENSIONAL SOLIDS. THESE MATERIALS WILL ALLOW THE VERY YOUNG STUDENT TO SEQUENTIALLY CONCEPTUALIZE THE DIAGRAMMATIC ILLUSTRATIONS FOUNDS IN PRINT AND BRAILLE TEXTS BY INVESTIGATING THE RELATIONSHIP BETWEEN A SPECIAL CLOSED CURVE (OUTLINE FIGURE), A PLANE FIGURE, AND A THREE-DIMENSIONAL SOLID.

THIS AID CONSISTS OF ONE WHITE VACUUM FORMED PLASTIC SHEET ILLUSTRATING 3 SPECIAL CLOSED CURVES--CIRCLE, SQUARE, TRIANGLE--WHICH ARE COLORED BLACK TO MAXIMIZE CONTRAST; 3 PLANE FIGURES AND 4 SOLIDS.

GEOMETRIC AREA AND VOLUME AID (GAVA) (CATALOG NUMBER 1-0320)

THE GAVA SET OF GEOMETRIC BLOCKS FOR FINDING VOLUME AND SURFACE AREA CONSISTS OF 30 UNPAINTED, WOODEN BLOCKS (10 DIFFERENT SHAPES), 20 CONNECTOR PEGS, AND A STORAGE/CARRYING TRAY. WITH THESE BLOCKS IT IS POSSIBLE TO CONSTRUCT MODELS OF THREE-DIMENSIONAL FIGURES RELATING TO SURFACE AREA AND VOLUME WHICH ARE MOST OFTEN FOUND IN ELEMENTARY MATHEMATICS TEXTS.

THE UNIT SIZE OF EACH BLOCK IS 1 CUBIC INCH. THE SET CONSISTS OF THE TRAY DIVIDED INTO 11 SECTIONS, 6 SINGLE-UNIT BLOCKS PLUS 24 MULTIPLE-UNIT BLOCKS, AND 20 CONNECTOR-PEGS. THE MULTIPLE-UNIT BLOCKS ARE MADE TACTILE BY INCISED GROOVES WHICH PROVIDE FOR EASY UNIT DISCRIMINATION. EACH OF THE DIFFERENT BLOCKS IS ASSIGNED A CODE-LETTER IDENTIFIER AND IS STORED IN THE PROPER SECTION OF THE TRAY.

CODE-LETTER IDENTIFIERS MAKE IT POSSIBLE TO CONSTRUCT VARIOUS FIGURES ACCORDING TO CONSTRUCTION FORMULAS.

An accompanying folder, in addition to illustrations of the blocks and their code-letter identifiers, gives construction formulas for 36 commonly used figures and some suggested activities for students. Construction of the figures is accomplished by inserting the connector pegs into holes in the blocks to hold them together. The student determines volume by counting the number of cubes in each solid and surface area by counting and the number of sides he can touch on each form. The set was field-tested to prove its effectiveness when used by visually handicapped children.

Abacuses (with Instructional Manuals) (Catalog Number 1-0315)

The Cranmer Abacus is a self-contained, pocket-sized calculating device with which one can add, subtract, multiply, divide, extract roots, handle decimals, fractions, and trigonometric functions -- in short, most processes of arithmetic calculations. It is a variation of the standard Japanese Soroban, with one bead above the bar and four beads below. This variation has two distinct features which set it apart from other forms of the abacus. First, the operator can read it by touch without fear of upsetting his work. The beads have a small amount of pressure applied to them from behind by a foam-rubber pad, covered with felt, thus creating a slight friction. Second, adequate bead-spacing and travel-distance allow for easy operation.

For those who need more columns for their calculations, a coupling device is available which will link two single abaci together for this purpose. The Abacus Coupler is made of spring steel, cadmium plated to resist corrosion.

Operation of any abacus requires extended study and practice on the part of the operator. Two instruction books are available in both Braille and large type for this purpose from the American Printing House for the Blind. (A similar booklet in regular ink-print type, entitled THE JAPANESE ABACUS: its use and theory, by Takashi Kojima, priced at $1.25, may be purchased from Charles E. Tuttle, Company, Rutland, Vermont.)

LARGE ABACUS (Catalog Number 1-0317)

The enlarged abacus is suggested for use by young visually handicapped students, and those who lack the skills required for easy manipulation of the smaller device. This large model may also be beneficial to the adult blind who have difficulty with manipulation and tactile discrimination.

The design of this abacus is similar to that of the Cranmer abacus. The beads have a small amount of pressure applied to them from behind by the rubber pad, thus creating a slight friction. The bead shape consists of two similar conical sections that are joined by a flat circular band approximately 1/8" wide. This design allows the user to place the thumb or finger against the beveled edge of the bead. Finger and thumb contact - of the bead is simplified, allowing for easier manipulation when setting the bead against the bar. Adequate bead-spacing and travel-distance allow for easy operation.

APH NUMBER LINE DEVICE (Catalog Number 1-0348)

The APH Number Line Device can be used to present many of the concepts which are included in contemporary elementary school mathematics programs as well as to discover and reinforce mathematical concepts. The APH Number Line Device bridges a gap, between the concrete and the abstract.

Manipulation and uses of the device are explained in detail in the booklet Guide to the APH Number Line Device which is included with the device.

FRACTIONAL PARTS OF WHOLES (Catalog Number 1-0329)

The Fractional Parts of Wholes Aid was designed as a tactile analog to parallel educational materials available to sighted students. The kit consists of a wooden work tray, three plastic form boards containing one, two, and three empty nests respectively, one whole circle cut into halves, one circle cut into thirds, and one circle cut into fourths. A whole circle is three inches in diameter and nine-sixteenths of an inch thick. The whole and its fractional part in the kit rises three-eights of an inch above the form board nests for tactile inspection. The form board nests and parts are housed in the work tray. The uniqueness of the kit for the blind lies in the combination of the work tray, form board nests for the parts, and parts which rise above the form board nests.

An instructional program is included with the kit to provide the teacher with a set of exercises to introduce the aid to young visually handicapped students.

LANDFORM MODELS (Catalog Number 1-0332)

The Landform Models were developed as supplementary aids for teaching basic geographical concepts to visually handicapped students. The set of three-dimensional tactual maps (landforms) illustrates 40 geographical concepts which are introduced in the elementary social studies curriculum. These concepts were found to be largely unknown at various grade levels.

DOOBIE THE BRAIN - Geographical Concept Tapes (Catalog No.1-0845)

The DOOBIE THE BRAIN instructional program stars a self-activating computer named "Doobie." It follows a "Sesame Street" format in which a variety of interesting characters present 42 geographical concepts with stimulating auditory sound effects. The approach is to help blind students learn the meaning of the concepts and to experience the "feel" of the geographical features as they appear on three-dimensional landform maps.

A teacher's manual including scripts of the eleven modules accompanies the tapes.

SIMPLIFIED CONTINENTAL RELIEF MAPS

These six simplified continental relief maps were developed as supplementary social studies aids for visually handicapped students in grades K-12. The maps contain prominent geographic features which were identified from analyses of social studies textbooks and geographical reference materials. Each individual map is 22-½" x 17-½" and has 1-1/8" high rails around it.

The maps are color coded for use by low vision students. Included with each map are identification sheets which present the prominent geographic features of each individual map.

Available are the following:

North America	- Cat. No. 1-0141	Africa	- Cat. No. 1-0143
South America	- Cat. No. 1-0146	Asia	- Cat. No. 1-0142
Europe	- Cat. No. 1-0145	Australia	- Cat. No. 1-0144

CHANG TACTUAL DIAGRAM KIT (CATALOG NUMBER 1-0313)

THE CHANG TACTUAL DIAGRAM KIT IS A LIGHT PORTABLE UNIT CONSISTING OF 104 FLAT GEOMETRIC FORMS OF 27 DIFFERENT SHAPES AND SIZES; 27 VARIED LENGTHS OF VELCRO HOOK LENGTHS; 2 MOLDED STICK MEN AND A BASEBOARD TO WHICH INTERLOCKING VELCRO HAS BEEN LAMINATED SO THAT THE VARIOUS PIECES CAN BE HELD IN PLACE. THE ENTIRE SET IS CONTAINED IN A BLACK FIBERBOARD CARRYING CASE WITH AN OVERALL WEIGHT OF 8-½ POUNDS. DESIGNED FIRST AS A TACTUAL AID FOR INSTRUCTORS OF ORIENTATION AND MOBILITY, THIS KIT HAS BEEN EXPANDED AS A RESULT OF FURTHER RESEARCH STUDY TO BE OF USE BY TEACHERS IN OTHER CURRICULAR AREAS.

TEACHERS MAY MAKE ADDITIONAL SHAPES TO FIT LOCAL NEEDS, USING THE EXTRA STRIP OF "HOOK" VELCRO WHICH IS INCLUDED IN THE SET. PIECES OF THIS VELCRO CAN BE ADHERED TO SUCH TEACHER-CONSTRUCTED SHAPES AND FORMS WITH EPOXY GLUE.

INSECT IDENTIFICATION KIT (CATALOG NUMBER 1-0326)

THE INSECT IDENTIFICATION KIT WAS DEVELOPED TO TEACH THE BODY PARTS OF INSECTS TO YOUNG PRIMARY LEVEL VISUALLY HANDICAPPED STUDENTS, TO ENCOURAGE STUDENTS TO EXAMINE AND DISTINGUISH DIFFERENCES AND LIKENESSES IN INSECTS, AND TO REINFORCE IDENTIFICATION OF THE INSECT WHICH APPEARS IN ILLUSTRATIONS WITH OTHER SMALL INVERTEBRATES IN PRIMARY GRADE SCIENCE BOOKS.

THE AID CONSISTS OF FIVE VACUUM-FORMED PLASTIC SHEETS ILLUSTRATING INSECTS. THE INSECT MODELS ARE COLORED BLACK AND APPEAR ON WHITE BACKGROUND TO MAXIMIZE CONTRAST FOR USE BY SUBJECTS WITH MINIMAL RESIDUAL VISION. SMALL INVERTEBRATES OTHER THAN THE INSECT ARE PRESENTED IN CONTRASTING COLORS (E.G., SPIDER-BROWN, EARTHWORM-RED) ON A WHITE BACKGROUND.

PUZZLE FORM-BOARD KIT (CATALOG NUMBER 1-0372)

THE PUZZLE FORM-BOARD KIT IS DESIGNED FOR USE BY THE PRESCHOOL OR PRIMARY LEVEL CHILD AS A MULTI-PURPOSE SUPPLEMENTARY AID IN LEARNING BASIC CONCEPTS OF FORM, SHAPE, TEXTURE COLOR, SIZE AND MANIPULATION. THE TEACHER OR PARENT WILL NEED TO SELECT ONLY THE PARTS OF THE AID WHICH ARE RELEVANT TO A SPECIFIC TEACHING SITUATION. A CHILD SHOULD BEGIN WITH ONLY ONE FRAME AND ONE INSET PIECE.

SEATED PARQUETRY SET (CATALOG NUMBER 1-0365)

THE PARQUETRY SET WAS DEVELOPED FOR LOW-VISIONED CHILDREN TO PROVIDE FORMBOARDS WHICH CONTROL THE WORK SPACE AND HOLD INDIVIDUAL PIECES SEATED EVEN IF ELEVATED AT AN ANGLE OF 90 DEGREES. FIELD-TESTING HAS SHOWN THAT THE SEATED FORMBOARDS EASE THE MANIPULATIVE TASK OF STUDENTS AND THAT THEY ARE MORE READILY ACCEPTED BY STUDENTS HAVING LESSER AMOUNTS OF VISION. THE STIMULUS CARDS AND THE ACCOMPANYING SEATED FORMBOARDS PROVIDE A VEHICLE WHICH REQUIRES STUDENTS TO ACTIVELY USE THEIR VISION, BUT ALLOWS BETTER POSTURE THAN MIGHT BE MAINTAINED OTHERWISE. IN ADDITION, FRUSTRATIONS WHICH MIGHT RESULT FROM RANDOM HAND MOVEMENTS OR FROM FACTORS RELATED TO LOW VISION ARE KEPT TO A MINIMUM.

THE COLORS USED ON THE STIMULUS CARDS AND THE PARQUETRY PIECES HAVE BEEN MATCHED ON EVERY QUALITY AS NEARLY AS POSSIBLE, SO THAT NEITHER THE KNOWLEDGE OF NAMES OF COLORS NOR THE CONCEPTS OF COLOR ARE NECESSARY FOR A CHILD TO PERFORM IN INITIAL ATTEMPTS AT VISUAL STIMULATION.

GIANT TEXTURED BEADS (CATALOG NUMBER 1-0378)

THIS SET OF MATERIALS CONSISTS OF 12 LARGE WOODEN BEADS OF THREE DIFFERENT SHAPES--4 CUBES, 4 RECTANGULAR SOLIDS, AND 4 CYLINDERS. EACH SHAPE IS PAINTED ITS OWN DISTINCTIVE COLOR (RED FOR THE CUBE, YELLOW FOR THE RECTANGULAR SOLID, AND LIGHT BLUE FOR THE CYLINDER). THREE DIFFERENT SURFACE TEXTURES ARE PROVIDED FOR EACH SHAPE--SMOOTH, STRIPED, AND CHECKERED--THE LAST TWO BEING INCISED INTO THE SURFACE OF THE BEADS. EACH SET OF THREE SHAPES HAS TWO IDENTICALLY TEXTURED SURFACES. THE STRINGER CONSISTS OF A WHITE NYLON CORD WITH A WOODEN STOP AT ONE END AND A PLIABLE NYLON TIP AT THE STRINGING END.

LARGE TEXTURED BLOCK (CATALOG NUMBER 1-0382)

THE 3-INCH TEXTURED CUBE IS RECOMMENDED FOR USE BY THE KINDERGARTEN-EARLY PRIMARY LEVEL CHILD OR THE OLDER CHILD WITH MULTIPLE HANDICAPS. IT IS DESIGNED WITH FOUR COLORS AND FOUR TEXTURES FOR SIMPLE MATCHING AND COMPARISONS. THE FRAME INCORPORATES A HOMING PRINCIPLE SO THAT A VERY YOUNG CHILD, OR A CHILD WITH MULTIPLE HANDICAPS CAN FIT THE BLOCK INTO IT WITH VERY LITTLE DIFFICULTY. ACCOMPANYING THE FRAME AND BLOCK ARE PLANE INSETS OF EACH COLOR AND TEXTURE USED IN THE BLOCK. THE INSETS CAN BE PLACED IN THE FRAME FOR DUPLICATION PURPOSES.

PEG KIT (CATALOG NUMBER 1-0342)

THE PEGS IN THE KIT VARY ACCORDING TO SIZE, COLOR, AND ARE TACTUALLY DIFFERENT. THERE ARE TWO SIZES OF PEGS. THE COLORS USED ARE RED, YELLOW AND BLUE. EACH PEG HAS EITHER ONE, TWO, OR THREE GROOVES. SIX BLACK INSET FRAMES WITH HOLES OF VARYING SIZES AND NUMBER CAN BE PLACED INTO THE BLACK WOODEN

BOX; THIS PROVIDES STRUCTURE FOR MATCHING, SORTING AND MANIPULATING THE PEGS. THE KIT WAS SO DESIGNED THAT NO TWO FEATURES CAN BE MATCHED SIMULTANEOUSLY.

SENSORY CYLINDER SET (CATALOG NUMBER 1-0367)

THE SENSORY CYLINDER SET IS COMPOSED OF SIX FIBER CYLINDERS (2-½" IN DIAMETER, 3" HIGH). THESE CYLINDERS HAVE BEEN WEIGHTED SO AS TO PRODUCE THREE PAIRS OF WEIGHTS (300, 200, AND 100 GRAMS). PLASTIC STYRENE AND FABRICS HAVE BEEN PLACED IN THE RECESSED TOPS (OR BOTTOMS) OF THE CYLINDERS, AFFORDING SIX TEXTURED MATCHES. THE FABRIC TEXTURES ARE IN SECONDARY COLORS OF ORANGE, PURPLE AND GREEN; THE PLASTIC STYRENE TEXTURES ARE WHITE. THE SIDES OF THE CYLINDERS ARE BLACK. THE CYLINDER SET HAS BEEN SO DESIGNED THAT NO TWO MATCHES OF WEIGHT, TEXTURE OR COLOR CAN BE MADE SIMULTANEOUSLY.

SHOELACE AID (CATALOG NUMBER 1-0380)

THE PURPOSE OF THE SHOELACE AID IS TO TEACH SHOELACING AND TYING TO KINDERGARTEN AND ELEMENTARY GRADE CHILDREN, AS WELL AS OTHERS WHO ARE IN NEED OF DEVELOPING MUSCULAR COORDINATION AND MANUAL DEXTERITY.

A DISTINCTIVE FEATURE OF THE SHOELACE AID IS THAT IT PROVIDES FOR THE TEACHING OF LACING AND BOW-TYING ON A SIMPLIFIED BASIS, BUT IN THE NORMAL SHOE POSITION. MOST CHILDREN CAN PUT THEIR OWN FOOT INTO THE SHOELACE AID, AND, BECAUSE OF THE SHOE'S SIZE, NO GREAT AMOUNT OF EXACTING DEXTERITY IS REQUIRED DURING THE LEARNING PROCESS. IN ADDITION TO ALLOWING THE SHOE TO BE PUT ON, THE OPEN BACK AFFORDS GOOD WORKING ROOM FOR BOTH THE TEACHER'S AND THE CHILD'S HANDS.

INDIVIDUAL STUDY SCREEN (Catalog Number 1-0330)

The Individual Study Screen provides 7X magnification and close viewing for the low visioned child who cannot profit from group viewing of film strips and other materials when projected on a large screen and viewed at a distance.

The Individual Study Screen (ISS) can be used in a lighted room without bleaching color or line in the projected image. This means that note-taking, copy work, etc. is possible while having a clear, vivid image for viewing in any position needed for the individual user.

The aids displayed and described above represent items which are purchasable on Quota monies as described above. They may also be purchased on a cash basis. APHB must sell its items since it operates as private industry actually.

The IMRC, on the other hand, was able to produce and distribute materials without cost to the teachers of the visually impaired. Some of these materials are still available.

Visually impaired child: Growth, Learning, Development - Infancy to School Age. Catalog Number 8-5104 $1.25.

Aids for Teaching Basic Concepts of Sensory Development. Catalog Number 7-0225. $3.65.

Educational Aids
Teachers Handbook
Social Competency
Recording List
Materials List
IMRC Article
Armchair Tour

Commercial Aids
Arts and Crafts
APH Catalogs
Low Vision Aids List
Sources List
History, Purposes & Policies

The IMRC, while on grant funding, participated in the Utilization of Low Vision thrust sponsored by the U. S. Office of Education. Two services have found increasing usage since March of 1970. Although no funds for additional items have been available under the SOVI contract, the services are being underwritten by the APHB. Teachers who wish to experiment and examine "in hand" either commerical materials for prescriptive teaching or non-prescriptive reading aids (magnifiers) may borrow such from the IMRC. A simple request explaining the need is the one requirement. Return postage, insurance, and an informal evaluation of both the materials and the service is appreciated. Lists of items in both categories are free upon request to the IMRC, Mr. Carl W. Lappin, Director. Display samples from both the materials for prescriptive teaching and non-prescriptive reading aids as well as the lists are presented for handling while in the workshop. Questions regarding any of the above will be most welcome.

Beth Phillips

Ms. Phillips is Director of the Low Vision Services Project at the American Foundation for the Blind. Previously, she worked with the American Physical Therapy Association. She did her graduate work at Stanford University, where she is now an instructor, as well as an Associate Professor at Marquette University.

Alex Townsend

Mr. Townsend is the Director of Sensory Aids Development, American Foundation for the Blind. He was formerly Associate Director, American Foundation for Overseas Blind; Executive Director, Miami Lighthouse for the Blind; and Vocational Counselor, Florida Bureau of Services for the Blind.

THE AMERICAN FOUNDATION FOR THE BLIND: ITS PROGRAMS AND SERVICES

(PAPER PRESENTED AT LOW VISION AIDS AND AIDS AND APPLICANCES FOR THE VISUALLY IMPAIRED WORKSHOP, COLUMBUS, OHIO - JULY 28, 1976.)

As you probably know, the American Foundation for the Blind is a national private non-profit organization, established in 1921, to stimulate research, collect and disseminate information and to advise and give counsel on matters that would improve and strengthen services for the blind. It has no membership - individual or agency; no local or state chapters. It is financed by direct mail solicitation to the general public, bequests, legacies, grants, contracts and investment income.

It maintains, in addition to its headquarters office in New York City, regional offices in Atlanta, Chicago, Denver, San Francisco, and a governmental relations office in Washington, D.C. It serves as a clearing house for information concerning all matters which affect blind people and works cooperatively with national, state and local agencies, both governmental and private, to strengthen and improve understanding of needs and abilities of persons of all ages who are blind or have severely impaired vision.

Our Information Department produces and distributes films, television and radio spot announcements and other information about blindness and services available to blind persons. It publishes a Directory of Agencies Serving the Visually Handicapped, a quarterly Newsletter about AFB activities, a bi-monthly Washington Report which contains information concerning legislative matters relating to blindness, a magazine, The New Outlook for the Blind (10 issues per year) and a variety of informational materials - more than 150 - which range from one page flyers and pamphlets to conference reports, manuals, handbooks, curriculum guides and highly technical monographs. A publications catalog and list of reprints available may be obtained by writing the Foundation. The Foundation's Migel Library contains one of the largest collections of print materials (non-medical) about blindness in the world.

Its services are available to anyone and most materials may be borrowed in person or through the mail. Bibliographies of materials available in the library may be obtained upon request. In the Foundation's archives, we have a large collection of Helen Keller's papers, correspondence, photos, etc., and in the Helen Keller room there are on display many awards and gifts bestowed upon her from around the world during the many years of her association with AFB (from 1924 until her death in 1968).

The Foundation administers a travel concession plan that allows a blind person traveling with a guide to obtain reduced fares on most railroad and buslines in the United States and, under contract to the Library of Congress, Division of the Blind and Physically Handicapped, records nearly 400 talking books each year.

We provide an aids and applicances mail order service and at headquarters office have a small outlet store. This is the only direct client/patient service we provide. Through mail and by phone we refer large numbers of blind persons and their families to direct service agencies.

Consultation and the organization of conferences, workshops,and demonstration projects are major activities of the Foundation's Program Planning Department. The Department is comprised of two divisions - Community Services and Program Development.

There are six regional consultants in the Community Services Division - two are located in New York and four in our branch offices. These consultants maintain close contact with public and private agencies in their assigned states and regions, maintain liaison with both specialized and generic agencies and provide consultation on all phases of administration, staff and program development, community organization. They participate in and plan local, state and regional meetings, assist in the assessment of the adequacy of local services and serve as referral resources for persons seeking information or in need of direct services.

The Program Development Division's staff of specialists are all based in the New York office. They provide consultation on specific problems, maintain awareness of developments in the field nationwide and stimulate the development of new programs, techniques and materials through organizing institutes, conferences and demonstration projects with the help of committees and individual experts from across the country. Areas of expertise of specialists in the Division include Education, Career Education, Placement and Employment, Independent Living, Aging, Recreation.

The AFB has, over the years, become increasingly concerned with the need for expansion of services for persons with low vision. As you know, a high percentage of the persons whose vision has been identified as being within the legal definition of blindness have some residual sight that could, with specialized aids and training, be utilized more effectively; this includes children learning to read print. There is an increasingly large number of persons in this country whose visual function cannot be normalized with conventional spectacles but who could, through specialized low vision aids and services, be assisted in obtaining employment, retaining their jobs or continuing to live independently. It has been estimated that five million or more persons could benefit from such services if these were made available to them.

The interest of the American Foundation for the Blind in the provision of low vision services is not new. As early as 1924, it offered "to assist any person interested in telescopic lenses to get in touch with an eye specialist" and in the late forties/early fifties, it began to stock and supply magnifiers and "far vision" devices. Clinical evaluation of optical aids based upon data collected from seven low vision clinics, and a study of the relationship of personality characteristics on acceptance and rejection of optical aids was conducted. A statement of principles and guidelines for community planning of optical aids services was developed and distributed.

In 1958, the U.S. Office of Vocational Rehabilitation began to provide grant support for the development of optical aids clinics, and the Foundation, feeling that its function as a catalytic agent had been served, scaled down its activities in this area. In early 1960, the National Society for the Prevention of Blindness assumed responsibility for national leadership in the low vision field. AFB's advisory committee on optical aids was dissolved and the Foundation's inventory of optical aids closed out. In 1962 the NSPB published "Standards for Low Vision Aid Facilities" and in 1966 published a booklet "Recommended Aids for the Partially Sighted."

The 1972-1973 survey conducted by the National Society for the Prevention of Blindness found a total of 114 low vision aid facilities. In general these were clustered in the larger cities - the largest numbers on the eastern seaboard, east north central region and the Pacific coast. 54% were located in medical centers, 18% in agencies serving the blind and 11% in colleges of optometry. As in any survey, not all of the centers providing services completed the questionnaire.

Staffing varied widely. Staff included ophthalmologists, optometrists, social workers, opticians, registered nurses, orthoptists, reading or optical aid assistants, ophthalmic assistants, psychological or rehabilitation counselors, optometric technicians. Mobility, communication and rehabilitation teachers were noted as involved or available in only 5 and special educators in only 3.

Approximately one-half of the facilities provided services less than one day per week. The number of patients seen varied from one per month to 45 per week. Not all facilities reported the number of low vision patients who were seen and low vision care services provided by individual ophthalmologists and optometrists as part of their office practice were not included in the survey. It can be estimated, however, upon the basis of the figures

AVAILABLE, THAT FEWER THAN 10,000 PERSONS RECEIVED LOW VISION SERVICES DURING THE YEAR. ALTHOUGH THE TECHNOLOGY IS AVAILABLE, IT IS VERY EVIDENT THAT THE SERVICE DELIVERY SYSTEM IS MOST INADEQUATE. THE AFB, THEREFORE, ESTABLISHED AS ONE OF ITS HIGHEST PRIORITIES, THE IMPROVEMENT, PLANNING AND PROMOTION OF A NATIONWIDE LOW VISION DELIVERY SYSTEM.

IN 1974, THE FOUNDATION INITIATED, UNDER THE DIRECTOR OF THE PROGRAM PLANNING DEPARTMENT, A LOW VISION SERVICES PROJECT, AND OVER THE PAST TWO YEARS LIAISON HAS BEEN ESTABLISHED WITH ORGANIZED LOW VISION INTEREST GROUPS IN THE ACADEMY OF OPHTHALMOLOGY, ACADEMY OF OPTOMETRY, AMERICAN OPTOMETRIC ASSOCIATION AND AMERICAN ASSOCIATION OF WORKERS FOR THE BLIND. THE PROJECT DIRECTOR, REGIONAL CONSULTANTS AND SPECIALISTS HAVE VISITED AND DISCUSSED LOW VISION SERVICES WITH PERSONS ACROSS THE COUNTRY. REGARDLESS OF LOCATION, IT APPEARS,THAT THE SUCCESS OF A LOW VISION SERVICE IS HIGHLY DEPENDENT UPON INTERDISCIPLINARY COOPERATION AND TEAMWORK. FOLLOW-UP TRAINING IN THE USE OF LOW VISION AIDS IS ESSENTIAL. AS TEACHERS, YOU PLAY A MAJOR ROLE IN IDENTIFICATION, REFERRAL AND FOLLOW-UP OF CHILDREN WHO CAN BENEFIT FROM SUCH SERVICES.

LAST FALL, THE NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS OFFICIALLY TRANSFERRED RESPONSIBILITY FOR LOW VISION AIDS SERVICE ACTIVITIES TO THE AMERICAN FOUNDATION FOR THE BLIND AND A STANDING ADVISORY COMMITTEE WAS APPOINTED. MEMBERSHIP ON THE COMMITTEE INCLUDES OPHTHALMOLOGISTS, OPTOMETRISTS, EDUCATORS AND WORKERS IN THE FIELD OF BLINDNESS.

WITH THE ASSISTANCE OF THE ADVISORY COMMITTEE, WAYS IN WHICH SERVICES AND THE SERVICE DELIVERY SYSTEM CAN BE IMPROVED AND EXPANDED HAVE BEEN IDENTIFIED. THESE INCLUDE DEVELOPMENT OF:

1) INSTRUCTIONAL MATERIALS AND PROGRAMS FOR TRAINING OF EXISTING AND ADDITIONAL PERSONNEL;
2) GUIDELINES FOR THE ESTABLISHMENT OF COMPREHENSIVE SERVICES;
3) IMPROVED COMMUNITY RELATIONS AND REFERRAL SYSTEMS;
4) RESEARCH INTO MORE EFFECTIVE WAYS OF MEASURING, TRAINING AND UTILIZING USABLE VISION;
5) INFORMATIONAL PROGRAMS FOR OTHER PROFESSIONALS AND THE PUBLIC CONCERNING AVAILABILITY OF SERVICES.

ONE ESSENTIAL FACTOR, IF LOW VISION SERVICES ARE TO BE SELF-SUPPORTING, IS PROVISION FOR REIMBURSEMENT FOR SERVICES UNDER HEALTH INSURANCE PLANS. TESTIMONY HAS BEEN PRESENTED BY OUR GOVERNMENTAL RELATIONS OFFICE BUT, AS YOU AND I KNOW, OUR SENATORS AND REPRESENTATIVES CAN BE BEST INFLUENCED ON THE HOME FRONT AND WE URGE YOU TO EDUCATE YOUR CONGRESSMEN AS TO THE NEED AND ENLIST THEIR SUPPORT OF INCLUSION OF LOW VISION SERVICES IN NATIONAL HEALTH INSURANCE, MEDICARE AND MEDICAID PLANS.

OUR IMMEDIATE OBJECTIVES ARE 1) TO OBTAIN RELIABLE DATA CONCERNING LOCATION, TYPES, STAFFING, COSTS, POPULATION SERVED, ETC., OF CURRENT SERVICES; 2) TO DEVELOP A MANUAL OF GUIDELINES FOR ESTABLISHMENT AND OPERATION OF SERVICES, AND 3) TO INITIATE DEVELOPMENT OF COMPETENCY BASED TRAINING PROGRAMS FOR PERSONNEL. A STAFF TASK FORCE HAS BEEN APPOINTED TO DEVELOP AND IMPLEMENT SPECIFIC PLANS AND WE ARE HOPEFUL THAT THESE INITIAL OBJECTIVES CAN BE ACCOMPLISHED IN A PERIOD OF THREE YEARS.

WE LOOK TO YOU IN THE FIELD TO KEEP US INFORMED OF DEVELOPMENTS, CHANGES AND NEEDS ACROSS THE COUNTRY, AND FOR YOUR ASSISTANCE IN IMPROVING AND EXPANDING THE LOW VISION SERVICES DELIVERY SYSTEM.

THE SENSORY AIDS DEVELOPMENT PROCESS

SENSORY AIDS DEVELOPMENT IS A BROAD AND COMPLEX PROCESS AIMED AT HELPING BLIND PEOPLE TO RECAPTURE SOME OF THE SENSORY CAPABILITY THAT THEIR IMPAIRED VISUAL APPARATUS WOULD OTHERWISE PROVIDE. IT IS A PROCESS THAT STRIVES TO BRIDGE THE GAP BETWEEN THE NEED FOR FRESH, SIGNIFICANT DEVICES AND THEIR ACCESSIBILITY, AND HELPS ENSURE IMPORTANT TECHNOLOGICAL OPPORTUNITIES FROM NEGLECT. IT REPRESENTS, AS WELL, A RESPONSE TO THE DISADVANTAGES IN SENSORY STIMULATION, CONCEPT FORMULATION AND COMMUNICATION IMPOSED BY BLINDNESS THAT GIVE RISE TO NEEDS FOR SUBSTITUTE TECHNIQUES AND DEVICES. IN SUM, A SENSORY AID IDEALLY SHOULD ASSIST THE USER TO APPROACH FUNCTIONAL EQUALITY IN A GIVEN TASK WITH SIGHTED PEOPLE THROUGH THE EXPLOITATION OF THAT INDIVIDUAL'S REMAINING SENSORY POTENTIALS-PRIMARILY THE TACTUAL AND AUDITORY.

WHEN ATTEMPTING TO DEVELOP NEW AIDS AND APPLICANCES SEVERAL FACTORS PECULIAR TO THE LOW VISION POPULATION MUST BE KEPT IN MIND:

1. VISUAL IMPAIRMENT IS OFTEN MERELY ONE PROBLEM IN THE CONTEXT OF OTHER CHRONIC CONDITIONS AND LIMITATIONS THAT CONFRONT A VISUALLY IMPAIRED PERSON.
2. AIDS AND APPLIANCES PRIMARILY DESIGNED FOR TOTALLY BLIND PEOPLE ARE NOT NECESSARILY RELEVANT TO THOSE WITH LIMITED VISION.
3. ONLY A FRACTION WILL PROBABLY USE ANY ONE, SINGLE TYPE OF DEVICE, THEREBY, MAKING IT INVALID TO ASSUME THAT THE VISUALLY IMPAIRED POPULATION IN GENERAL IS A MARKET FOR A PARTICULAR SENSORY AID. THE BULK OF TODAY'S BLIND POPULATION IS COMPRISED OF PERSONS WHO ARE AGING, MULTI-HANDICAPPED OR PARTIALLY SIGHTED. YET, THE PROBABLE MARKET FOR SENSORY AIDS LIES MORE AMONG THE SINGLY HANDICAPPED BLIND OF SCHOOL AND WORKING AGE.

Too, the need for a special aid, the desire to use it and its suitability for a visually impaired child or adult is dependent on that individual's visual efficiency, extent of impairment and such factors as the nature and level of activity, independence, economic level, personality-even the attitudes of family, teachers, employers or agency personnel with whom the person may be in contact.

4. Further part, most companies are not interested in developing improved, less expensive aids and applicances for the blind because of limited market potentials. Opportunities to break even, much less enjoy reasonable financial returns on such investments are few. Interestingly, where commerical interest does exist, it seems to be attracted more towards -

   a) Application of computer technology, for access to printed matter. One promising approach is the Audio Response Time-Sharing System (ARTS) whereby the user is linked by telephone to a talking computer. Another is the Kurzweil Reading Machine that reads text audibly from the printed page. Yet another is the Text-O-Braille that directly converts printed text into braille.

   b) Utilization of optical scanning techniques for supplementing braille and tape recorded materials. Among these is the Optacon that converts the image of a printed letter into a vibrating tactile form that a blind person can feel with one finger. Another device is the Stereotoner that picks up visual images from the printed page and converts them into 10 stereophonic, musical tones.

Devices such as the foregoing are rather unique by virtue of offering their manufacturers either an attractive profit incentive, access to governmental funds for development, or both.

5. VISUAL ACUITY CRITERIA RELATING TO THE LOW VISION POPULATION IS OFTEN OF LITTLE VALUE IN DETERMINING SPECIAL EQUIPMENT NEEDS. RELIABLE INFORMATION ON FUNCTIONAL CHARACTERISTICS AND VISUAL EFFICIENCY IS NOT ALWAYS AVAILABLE.

   FOR EXAMPLE, WE KNOW, OR THINK WE DO, THAT THE VISUAL ACUITIES OF 2/3 OF THE 20,000 OR SO IDENTIFIED, SCHOOL AGE BLIND CHILDREN ARE RATED AS BETWEEN 20/200 AND LIGHT PERCEPTION. WE NEVERTHELESS REMAIN UNCERTAIN AS TO WHAT THIS MEANS WHEN RELATED TO HUMAN FACTOR ASPECTS INHERENT IN ANY NEW DEVICE.

AS AGAINST THIS BACKGROUND, THE DEVELOPMENT OF SENSORY AIDS IDEALLY BEGINS WITH THE DISCOVERY OF AN UNMET NEED OR A GAP IN DELIVERY OF SERVICES AND PROCEEDS ALONG WELL-DEFINED LINES: IDENTIFICATION OF THE PROBLEM AND THE SUBPOPULATION AFFECTED; THEIR VISUAL CHARACTERISTICS, FUNCTIONAL LIMITATIONS; PREFERENCES, ECONOMIC LEVELS, ETC.. THIS DATA IS THEN RELATED TO THE TYPE OF DEVICE PROPOSED AND APPROPRIATE SPECIFICATIONS ARE DRAWN UP. PROTOTYPES ARE BUILT, TARGETED TO THE NOW-ESTABLISHED NEEDS OF THE USER GROUP IN QUESTION, AND TESTED FOR PRACTICAL VALUE. IF THE DEVICE THAT ULTIMATELY SURVIVES THIS PROCESS PROVES ACCEPTABLE AND ECONOMICALLY FEASIBLE, ATTEMPTS CAN BE MADE FOR ITS COMMERCIALIZATION.

A FEW EXAMPLES OF SENSORY AIDS THAT TYPIFY THIS PROCESS ARE SUCH ELECTRONIC ENVIRONMENTAL PROBES AS:

1. SONICGUIDE, A SPECTACLE MOUNTED, ULTRASONIC DEVICE THAT OFFERS ITS USER AN AUDITORY CONCEPT OF HIS ENVIRONMENT BY MEANS OF CODED CUES.
2. LASER CANE, A PLASTIC LONG CANE WITH 3 INFRARED (LASER) EMITTING ELEMENTS MOUNTED IN ITS HOLLOW SHAFT. A DOWNWARD BEAM DETECTS DROP-OFFS; AN UP WARD-AIMED BEAM PICKS UP OBSTACLES AT HEAD HEIGHT; A BEAM AIMED DIRECTLY AHEAD DETECTS OBJECTS IN FRONT OF THE TRAVELER.
3. PATHSOUNDER, A CHEST-BORNE, ULTRASONIC DEVICE THAT DETECTS OBSTACLES DIRECTLY AHEAD, BETWEEN WAIST AND HEAD HEIGHT.

4. MIMS INFRARED SPECTACLES, A SPECTACLE-MOUNTED AID THAT AUDIBLY SIGNALS THE PRESENCE OF OBSTACLES DETECTED BY ITS INFRARED BEAM.

ABOUT TO BE MARKET TESTED ARE A PROMISING DEVICE FOR BLIND DIABETICS TO SELF-ADMINISTER THEIR OWN URINE SUGAR LEVEL ANALYSES, AND A TYPEWRITER ATTACHMENT THAT PROVIDES THE BLIND TYPIST WITH A BRAILLE TRANSCRIPTION OF TEXT- CHARACTER BY CHARACTER - AS IT IS TYPED. ALREADY COMMERCIALLY AVAILABLE ARE HIGH SPEED BRAILLE PRINTERS THAT, WHEN LINKED TO COMPUTERS, TERMINALS, TELETYPES AND NEWS WIRES, PRINT AS MANY AS 120 BRAILLE CHARACTERS PER SECOND.

QUITE FREQUENTLY, IDEAS FOR SENSORY AIDS ARE VOLUNTEERED BY EXTERNAL SOURCES IMBUED WITH DIFFERING CONCEPTS OF BLINDNESS AND BLIND PEOPLE - SOME REALISTIC, SOME VISIONARY - AND POSSESSED OF MOTIVES THAT RANGE FROM THE MERCENARY TO THE CHARITABLE. EVEN SO, VALUABLE CONTRIBUTIONS CONSTANTLY EMERGE FROM OUTSIDE THE BLINDNESS SYSTEM, NOR ARE WE AT AFB RELUCTANT TO ADAPT PROCESSES OR MODIFY DEVICES INTENDED FOR OTHER MARKETS OR DISABILITY GROUPS. IN THE SAME VEIN, I WOULD GREATLY APPRECIATE HAVING YOU FILL OUT - IF YOU WILL - THE QUESTIONNAIRES THAT I AM ABOUT TO DISTRIBUTE. THESE CAN BE RETURNED AT YOUR CONVENIENCE IN THEIR ACCOMPANYING SELF-ADDRESSED ENVELOPES, AND WILL RECIEVE OUR CAREFUL ATTENTION. PLEASE INDICATE WHAT KIND OF AIDS AND APPLIANCES YOU WOULD LIKE AFB TO DEVELOP OR MAKE AVAILABLE; ALSO, ANY PRODUCT ADAPTATIONS YOU'VE FOUND TO BE USEFUL TO BLIND OR VISUALLY IMPAIRED PEOPLE - AND STATE IF YOU WOULD LIKE TO RECEIVE A COPY OF OUR 1977 CATALOG OF AIDS AND APPLIANCES.

OUR CURRENT CATALOG OF AIDS AND APPLIANCES - SOON TO BE SUCCEEDED BY A NEW, 1977 EDITION - LISTS SOME 200 ITEMS INTENDED TO MAKE LIFE EASIER AND SAFER FOR BLIND CHILDREN AND ADULTS. THESE DEVICES ARE SOLD AT COST AND CAN BE PURCHASED BY MAIL, TELEPHONE OR DIRECTLY AT THE FOUNDATION'S HEADQUARTERS IN NEW YORK CITY. INCLUDED ARE -

Clocks and Timers

Games

General Merchandise

Kitchen Products

Mathematical Aids

Medical Devices

Mobility Aids

Scales

Thermometers

Tools and instruments

Watches

Writing Equipment

We currently reach about 60,000 individuals and agencies trhough our catalog mailings. Given that there are estimated to be some 1.7 million persons with severe vision problems, it is obvious that many persons are not being reached by AFB. We would also like to ask you to share the names of additional individuals with us so that we may send visually impaired persons, not currently being reached, an AFB catalog of Aids and Appliances. The catalog has traditionally been available in print and braille editions and will also be available on discs ("Talking Catalog") in the fall.

Now, as to the future, a number of promising aids are under review and development at AFB or elsewhere. Many of them are electronic and will offer minimal human error potential. Among the more unique are:

- Miniaturized ultrasonic devices that beep on command and thereby enable a blind person to locate his work station, classroom desk, doorway, or other environmental feature or object.
- Audible magnetic compasses.
- Braille Mimeograph machines.

- Talking wristwatches.
- Audible testing devices, clocks, meters.
- Electronic path indicators to be embedded in the floors of places such as museums, zoos, and tourist attractions and followed by use of small hand-held probes.
- Miniature, electronic braille typewriters.

This glimpse, then, of the sensory aids development process will assure you of our desire to move ahead in assisting blind children and adults to enjoy meaningful opportunities for independent living. We genuinely seek and value all the insight, encouragement and counsel that you can offer, in the hope that our mutual efforts will truly benefit the visually impaired children and adults with whom we all are concerned and for whom new strategies must constantly be designed.

Professor T. A. Benham

T. A. Benham has been a professor of Physics, Electronics, and Applied Mathematics at Haversford College for 35 years. In 1955, he started Science for the Blind as an avocation, but now it is his full-time occupation. He is a member of the Institute of Electronic and Electrical Engineers. Professor Benham has been blind since the age of two.

TECHNICAL AIDS FOR THE VISUALLY HANDICAPPED

SCIENCE FOR THE BLIND

INTRODUCTION TO

LOW VISION AIDS AND OTHER MATERIALS OF SPECIAL INTEREST TO THE VISUALLY LIMITED.

LOW VISION AIDS

DURING THE PAST FOUR OR FIVE YEARS, INTEREST IN LOW VISION HAS EXPANDED SIGNIFICANTLY. CLINICS AND DOCTORS ARE NOW AVAILABLE IN MANY LOCATIONS TO REVIEW WITH LOW VISION PATIENTS THE MANY TYPES OF LOW VISION AIDS CURRENTLY AVAILABLE. MANY AGENCIES AND SCHOOLS ALSO STOCK A SUPPLY OF MAGNIFYING DEVICES FOR USE OF CLIENTS AND STUDENTS WHO FIND THEM ADEQUATE. GENERALLY, THE FUNCTION OF THE EVALUATOR IS NOT TO DETERMINE WHETHER OR NOT THE EYES CAN TOLERATE USE (THIS IS USUALLY DETERMINED BY THE EXAMINING OPHTHALMOLOGIST WHO WILL INDICATE IN GENERAL TERMS IF THE EYES SHOULD NOT BE USED), BUT TO DETERMINE JUST WHICH DEVICE CAN BE USED TO BEST ADVANTAGE AND WITH MAXIMUM CONVENIENCE, WITHOUT OBLIGATING THE CLIENT TO INDIVIDUAL PURCHASE OF HUNDREDS OF DOLLARS WORTH OF LOW VISION AIDS IN ORDER TO FIND THE ONE BEST SUITED TO HIS NEEDS.

In addition to the closed circuit television magnifier, the most universally useable magnifying device available, SFB Products also handles the EdniLite 2x and 4x lenses and a line of inexpensive hand magnifiers. These are available on a "return if not satisfactory" basis with a nominal restocking fee.

OTHER MATERIALS

SFB Products stocks materials of special interest to the visually limited both as a convenience to customers and to secure revenue to help offset overhead costs on the instruments and aids program. Every effort is made to find products of good quality at reasonable prices. If you think of an item you would like us to handle, let us know -- we will give consideration to all suggestions.

INTRODUCTION TO

Aids Manufactured and Adapted by SFB Products

This catalogue should be used not as a listing of items available but as a source of ideas. Perhaps the tool or equipment needed for a specific job is listed here. If not, PLEASE INQUIRE. A minor modification of an existing instrument may serve or we may be able to draw on past experience with other individual requests to help.

The collection of special instruments described herein has been built over the years based mainly on requests from the field. More popular items are stocked and listed formally. Items required seldom or only once are done on a special order basis. Special items adapted in the past have included:

Gauges for heating, refrigeration, and air conditioning
Automotive ignition analyzers and Dwell meter
SWR Bridge
Scales
Tape and cassette recorders with special features
Micrometers and other measuring devices

The usual procedure, (subject to change for mutual convenience) for special order items of this sort is to discuss the problem by phone and for agency or individual to provide SFB Products with as much information about the work situation and equipment needed as possible.

SFB Products will give either an exact quote or a maximum estimate for the adaptation. The basic equipment is then purchased by the agency and shipped to SFB Products. We complete the work and bill for the adaptation only.

Consultation service is also offered by SFB Products. There is, of course, no charge for estimates on special adaptations or for phone calls coming in to us seeking information and advice. Substantial blocks of time on a specific project are charged at the rate of $15.00/hour plus any expenses involved (travel, phone calls, etc) only after the expenditure is authorized by the person or agency requesting it.

SFB Products remains, basically, a service company. We are expanding wherever we can in order to spread our overhead over a broader base, but our basic purpose is to help make all tasks easier for the blind or visually limited in any way we possibly can.

NOTE: T-ITEMS ARE (OR ORIGINALLY WERE) BASICALLY MANUFACTURED BY SFB PRODUCTS. OCCASIONALLY A NEW PRODUCT ON THE COMMERCIAL MARKET ALLOWS ADAPTATION LESS EXPENSIVELY, AS WITH THE DIGITAL CLOCK, BUT THE CATEGORY DESIGNATION IS NOT CHANGED. A-ITEMS RECEIVE RELATIVELY MINOR ADAPTATIONS.

INTRODUCTION TO MAIL ORDER PROGRAM

THIS PROGRAM WAS INITIATED BY SFB PRODUCTS FOR TWO REASONS:

1) AS A SERVICE TO BLIND SHOPPERS WHO WILL APPRECIATE THE CONVENIENCE OF MAIL ORDER SHOPPING AT LEAST AS MUCH AS THEIR SIGHTED PEERS.
2) AS A MEANS OF INCREASING REVENUES TO HELP SFB PRODUCTS MEET THE OVERHEAD COSTS OF THE INSTRUMENTS AND AIDS PROGRAM.

EVERYONE BLIND OR SIGHTED IS WELCOME TO PURCHASE FROM OUR AUDIBLE SOUND-SHEET CATALOGUE -- AUD-A-BUY. REFERRALS ARE WELCOME: IF YOU CANNOT USE THE SOUND-SHEET, PASS IT ALONG TO SOMEONE WHO CAN. IF YOU KNOW OF SOMEONE WHO WOULD BE INTERESTED, SEND NAME AND ADDRESS AND WE WILL BE HAPPY TO SEND AUD-A-BUY DIRECTLY.

OUR AIM WITH OUR MAIL ORDER PROGRAM IS TO OFFER A SELECTION OF MERCHANDISE SUCH AS SIGHTED PEOPLE PURCHASE BY MAIL ORDER TO TEST THE QUALITY OF THE MERCHANDISE AND STAND BEHIND IT, AND TO GIVE PERTINENT INFORMATION ABOUT IT. WHENEVER POSSIBLE, WE CHOOSE MERCHANDISE WITH THE CONVENIENCE AND PLEASURE OF THE VISUALLY LIMITED SPECIFICALLY IN MIND, BUT ITEMS ARE BASICALLY GIFT AND NOVELTY ITEMS WITH APPEAL TO EVERYONE.

T-1 AUDICATOR

Various accessories plug into basic Audicator box to accomplish several tasks.

Fig. 1: T-1 Audicator
T-1AC Clip Leads
T-1AL Liquid Level Indicator, Home Model. Lab Model is longer.
T-1AS Light Sensor on Cable
T-1AP Plug-in Light Sensor

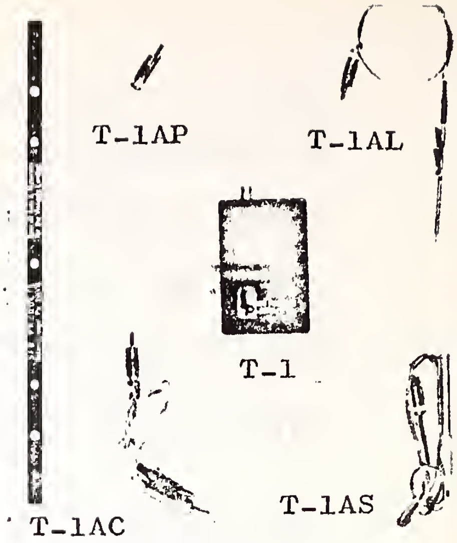


Figure 1

Ref: See T-L4 Transmitter Tuning Aid (Tunicator) for variation of basic Audicator box.

Warranty: 1 year on Audicator and all accessories.

APPLICATIONS:

IN BUSINESS:	Check for lighted telephone buttons, switchboard signals, and computer panels. Find letterhead or blank spaces on forms.
IN THE LAB:	Check electronic components and fluid levels. Find meter needles. Distinguish between black and white wire insulation.
IN THE HOME:	Check light bulbs, fuses, and electrical appliances. Measure liquids. Find lights that have been left on.

Optional Accessories: Clip Leads; Plug-in Light Sensor; Liquid Level Indicator; Light Sensor on flexible Cable with switch; Black/White Detector. Earphone jack and earphone, or Reverse Polarity Switch also available: must be ordered with basic Audicator.

NOTE: Audicator with Black/White Detector built in may be ordered as the basic Audicator into which other optional accessories may be plugged.

CAUTION: BE ABSOLUTELY CERTAIN THAT ANY DEVICE BEING TESTED WITH THIS INSTRUMENT IS NOT CONNECTED TO ELECTRIC CURRENT.

Light Sensor Attachments:

The plug-in Light Sensor is a small photocell mounted on a plug and protected by a housing with the end open to allow light to enter. The photocell is activated by pressing the plug firmly into the socket in the Audicator. To silence the plug-in Light Sensor, either remove it completely from the socket, or pull it out just far enough to stop the tone.

When the sensor is activated, the Audicator will emit a tone whose pitch depends on the amount of light showing on the cell through the open end of the tube - the higher the pitch, the brighter the light.

This instrument can then be used to determine whether lights have been left on, to find windows, doors which are open, etc.

Incandescent lamps will provide an almost pure tone. Fluorescent lamps will cause a buzzing sound produced by the 60 Hz AC. The fluorescent light actually goes out between AC pulses, while an incandescent lamp on AC remains constant because of the thermal inertia of the filament. A headlight or flashlight will provide a pure tone because it is DC. Daylight also produces a pure tone.

The Light Sensor with switch on a cable is mounted on the end of an 18" (or longer) flexible cable so that the photocell can be activated as required at a distance from the Audicator. This device is used for scanning lighted pushbuttons such as those on

MULTI-LINE TELEPHONES OR SWITCHBOARDS OR ON A COMPUTER PANEL. BLINKING LIGHTS (PHONE ON HOLD) CAN BE DISTINGUISHED EASILY FROM STEADY LIGHTS (LINE IN USE) OR NO LIGHT.

LIQUID LEVEL INDICATOR

THIS DEVICE IS MADE UP OF A PROBE ON THE END OF A CABLE WHICH PLUGS INTO THE AUDICATOR. WHEN THE END OF THE PROBE CONTACTS A FLUID, THE CIRCUIT IS COMPELTED AND THE AUDICATOR EMITS A HIGH-PITCHED TONE.

TO USE THE LEVEL INDICATOR, SIMPLY PLACE THE INDICATOR IN THE VESSEL TO BE FILLED, WITH ITS TIP AT THE LEVEL TO WHICH THE FLUID SHOULD RISE. POUR THE FLUID. AS SOON AS THE TONE SOUNDS, STOP.

A SHORT ADJUSTABLE PROBE IS AVAILABLE FOR HOME USE WITH THE AUDICATOR, A LONG PROBE FOR THE LAB. IN ADDITION, A NON-ADJUSTABLE LIGHT WEIGHT 2-WIRE PROBE IS AVAILABLE FOR USE WITH STYROFOAM CUPS OR IN INSTANCES WHERE ADJUSTABILITY IS NOT NECESSARY.

BLACK-WHITE (WIRE COLOR DISCRIMINATOR) DETECTOR

THIS ACCESSORY CONSISTS OF A SECOND BOX THE SIZE OF THE AUDICATOR, WHICH PLUGS INTO THE AUDICATOR BOX VIA PLUG AND SHORT CABLE. FROM THE OTHER SIDE OF THE BWD EXTENDS A CABLE WITH A SMALL PROBE ON THE END CONTAINING A LIGHT SOURCE AND A SENSOR. A SWITCH ON THE BWD BOX HAS POSITIONS FOR OFF, SENSOR ONLY, LIGHT AND SENSOR. IN THE SENSOR ONLY POSITION IT WILL PERFORM IN MUCH THE SAME WAY AS THE AUDICATOR WITH LIGHT SENSOR ON CABLE. IN THE LIGHT AND SENSOR POSITION IT WILL DISCRIMINATE AT CLOSE RANGE BETWEEN AREAS OF HIGH LIGHT REFLECTIVITY (WHITE) AND LOW REFLECTIVITY (BLACK). IT IS THUS POSSIBLE TO FIND PRINT ON A PAGE (SHAPES OF LETTERS CANNOT BE DISTINGUISHED -- ONLY THE FACT THAT DARKER PATCHES ARE THERE) AND THEREBY IDENTIFY POSITION OF LETTERHEAD, LOCATION OF BLANK

Spaces, etc. It is also possible to compare light and dark objects and determine which are light and which dark -- for example, white wire insulation and black, and a black needle on a white background. When ordering the Black-White Detector as an Audicator accessory,be sure to indicate whether a single or a 3-prong plug is required.

If you do not already have an Audicator, the Black-White Detector may be purchased as the basic Audicator box into which the regular Audicator accessories can be plugged, thus eliminating the need for a second box.

Audicator B/W comes with Black-White Detector probe and a jack for plugging in other Audicator accessories.

Clip Leads:

There are two clip leads on the Audicator attachment. The one with the plastic band is plus.

There are approximately 9 volts between the clip leads.

When the clip leads are connected together, a short circuit is formed which produces a high-pitched squeal. When a low resistance device, such as a fuse or a light bulb, is tested, the high pitch will indicate that the device is good. In order to test a fuse or a bulb, place one lead to the base of the fuse or bulb and the other lead on the threaded part of the base.

There are approximately 9 volts between the clip leads.

When the clip leads are connected together, a short circuit is formed which produces a high-pitched squeal. When a low resistance device, such as a fuse or a light bulb, is tested, the high pitch will indicate that the device is good. In order to test a fuse

OR A BULB, PLACE ONE LEAD AT THE BASE OF THE FUSE OR BULB AND THE OTHER LEAD ON THE THREADED PART OF THE BASE.

TO CHECK IF A SWITCH IS GOOD (E.G., TOASTER OR OTHER APPLIANCE SWITCHES), REMOVE THE PLUG FROM THE WALL SOCKET. CONNECT AUDICATOR LEADS ONE TO EACH PLUG PRONG. OPERATE THE APPLIANCE SWITCH. IN THE "ON" POSITION, A HIGH TONE WILL INDICATE THAT THE SWITCH IS OPERATING PROPERLY. IN THE "OFF" POSITION, THERE SHOULD BE NO TONE. LACK OF TONE WHEN THE SWITCH IS IN THE "ON" POSITION INDICATES EITHER A DEFECTIVE SWITCH OR A DEFECTIVE APPLIANCE. (NOTE: LAMP MUST HAVE GOOD BULB IN SOCKET WHILE TESTED - CHECK BULB AS INDICATED ABOVE.)

ELECTRONICS APPLICATIONS:

A SPECIAL ELECTRONICS MODEL OF THE AUDICATOR IS AVAILABLE WITH A REVERSE POLARITY SWITCH, WHICH ENABLES THE OPERATOR TO CHANGE THE POLARITY OF CONNECTIONS WITHOUT DISCONNECTING AND RECONNECTING THE CLIP LEADS.

THE HIGHER THE RESISTANCE OF THE ITEM BEING TESTED, THE LOWER THE PITCH GIVEN BY THE AUDICATOR. IF THE RESISTANCE IS 1 MEGOHM, THE PITCH IS REDUCED TO ABOUT FIVE CLICKS PER SECOND. IF THE CLIPS ARE HELD ONE IN EACH HAND, BETWEEN THE FINGERS, AND SQUEEZED, THE PITCH WILL INDICATE THE RESISTANCE OF THE HANDS AND WILL VARY FROM ABOUT 1 MEGOHM (JUST BARELY TOUCHING) TO ABOUT 50,000 OHMS (SQUEEZING HARD.

ELECTROLYTIC CAPACITORS CAN BE CHECKED FOR LEAKAGE, POLARITY AND INDICATION OF CAPACITANCE. CONNECT THE PLUS LEAD INTO THE POSITIVE SIDE OF THE CAPICATOR, AND THE NEGATIVE LEAD TO THE NEGATIVE SIDE. IF THE CAPACITOR IS GOOD, THE PITCH WILL DROP TO ZERO AND REMAIN THERE. IF THE PITCH DROPS VERY SUDDENLY, THE CAPACITANCE IS LOW -

FOR EXAMPLE, 1 MFD (MICROFARAD). IF IT DROPS SLOWLY, THE CAPACITANCE IS HIGH - FOR EXAMPLE, 500 MFD. IT SHOULD BE REMEMBERED THAT THE CAPACITOR IS BEING SUBJECTED TO A POTENTIAL DIFFERENCE OF ABOUT 9 VOLTS, SO THAT CAPACITORS WITH VOLT RATINGS LESS THAN THIS SHOULD NOT BE CHECKED WITH THIS INSTRUMENT. ELECTROLYTIC CAPACITORS SOMETIMES REQUIRE "AGING." THIS MEANS THAT THE DIALECTRIC TAKES TIME TO FORM. IN THIS CASE, THE PITCH WILL DROP TO A LOW VALUE (A FEW CLICKS PER SECOND) AND IF THE CAPACITOR IS LEFT CONNECTED, THE INSTRUMENT WILL EVENTUALLY BECOME QUIET, INDICATING THAT THE CAPACITOR HAS FORMED ITS DIALECTRIC AND THE LEAKAGE IS ESSENTIALLY ZERO.

IF THE CAPACITOR IS CONNECTED BACKWARDS, THE PITCH WILL DROP TO A MEDIUM VALUE - FOR EXAMPLE, 500 Hz - AND THEN GRADUALLY INCREASE. IT SHOULD NOT BE LEFT IN THIS CONNECTION, BUT SHOULD BE DISCONNECTED AS SOON AS IT IS REALIZED THAT IS IS BACKWARDS. IT IS THEN A GOOD IDEA TO CONNECT IT THE PROPER WAY FOR A FEW MINUTES IN ORDER TO REFORM THE DIALECTRIC BEFORE STORING OR USING THE CAPACITOR. IF THE CAPACITOR IS DEFECTIVE BECAUSE OF AN INTERNAL SHORT, THE PITCH WILL NOT GO TO ZERO UNDER ANY CONDITIONS.

WHEN TESTING A CIRCUIT THAT IS ALMOST ZERO RESISTANCE, SUCH AS A TRANSFORMER WINDING, THE DIFFERENCE BETWEEN A SHORTED WINDING, AND A NORMAL WINDING CAN BE DETECTED BY CONNECTING THE CLIPS TOGETHER WHILE THEY ARE STILL CONNECTED TO THE WINDING OR COIL. IF THE WINDING IS SHORTED, THE PITCH DOES NOT CHANGE. IF THE WINDING IS NORMAL, THE PITCH INCREASES WHEN THE CLIPS ARE BROUGHT TOGETHER. HOWEVER, VERY LOW RESISTANCE COILS, SUCH AS 6.3 VOLT TRANSFORMER WINDING, WILL PROBABLY SHOW VERY LITTLE CHANGE IN PITCH. LEAKAGE BETWEEN WINDINGS UP TO 2 OR 3 MEGOHMS CAN ALSO BE DETECTED.

TRANSFORMER ACTION CAN BE DETECTED BY CONNECTING THE AUDICATOR TO ONE WINDING AND SHORTING ANOTHER WINDING.

A TRANSISTOR MAY BE CHECKED AS FOLLOWS:

FOR NPN TRANSISTORS, CONNECT THE POSITIVE LEAD TO THE COLLECTOR AND THE NEGATIVE LEAD TO THE EMITTER.

FOR PNP TRANSISTORS, CONNECT THE POSITIVE LEAD TO THE EMITTER AND THE NEGATIVE LEAD TO THE COLLECTOR.

WHEN THE TRANSISTOR IS CONNECTED, THERE SHOULD BE NO TONE. A LOW-PITCHED TONE INDICATES LEAKAGE (TRANSISTOR MAY BE DEFECTIVE). A HIGH TONE WILL INDICATE A SHORTED TRANSISTOR (DEFINITELY DEFECTIVE).

FOR A ROUGH INDICATION OF SENSITIVITY, LEAVE THE TRANSISTOR CONNECTED AS ABOVE AND PLACE ONE FINGER SO THAT IT TOUCHES THE BASE LEAD AND THE COLLECTOR LEAD SIMULTANEOUSLY. THIS SHOULD CAUSE THE PITCH TO INCREASE. THE HIGHER THE PITCH, THE GREATER THE SENSITIVITY OF THE TRANSISTOR. IF PRESSURE OF THE FINGER IS INCREASED, THE PITCH WILL ALSO INCREASE. IF THE BASE LEAD IS SHORTED TO THE EMITTER LEAD AND THE PITCH DOES NOT GO TO ZERO, LEAKAGE IS INDICATED BETWEEN THE BASE AND COLLECTOR.

EARPHONE JACK AND EARPHONE ALLOW "QUIET" USE OF AUDICATOR FOR ANY APPLICATION. WHEN EARPHONE IS PLUGGED IN, AUDICATOR SPEAKER IS QUIET AND TONE CAN BE HEARD ONLY THROUGH EARPHONE.

BATTERY REPLACEMENT:

THE AUDICATOR CONTAINS A 9V MERCURY BATTERY WHICH SHOULD LAST FOR A LONG TIME (2 OR 3 YEARS), CONSIDERING THE FACT THAT THE AUDICATOR WILL BE ACTIVATED FOR ONLY BRIEF INTERVALS. IN ORDER TO REPLACE THE BATTERY, REMOVE THE FOUR SCREWS IN THE RUBBER FEET SO THAT THE BOTTOM COMES OFF. UNCLIP THE OLD BATTERY, CLIP IN THE NEW BATTERY, RECLOSE THE BOX AND REPLACE THE SCREWS.

Ordering Additional Accessories:

When ordering attachments for your Audicator, please let us know if your Audicator uses a single prong or 3-prong plug. Indicate whether light sensor should be plug-in or cable type. If cable, specify length (24" supplied unless otherwise requested). For liquid level indicator, specify long probe, short probe, or non-adjustable probe.

T-1 Audicator is manufactured and sold by

SCIENCE FOR THE BLIND PRODUCTS
221 Rock Hill Road
Bala-Cynwyd, Pa. 19004

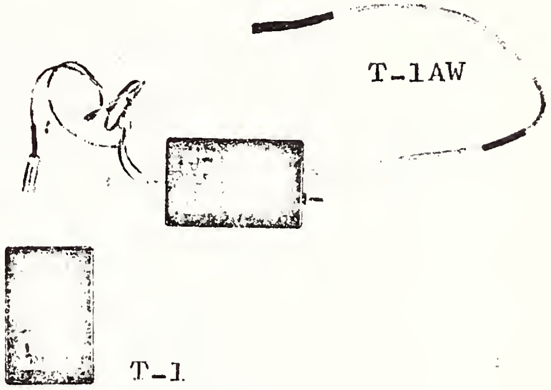


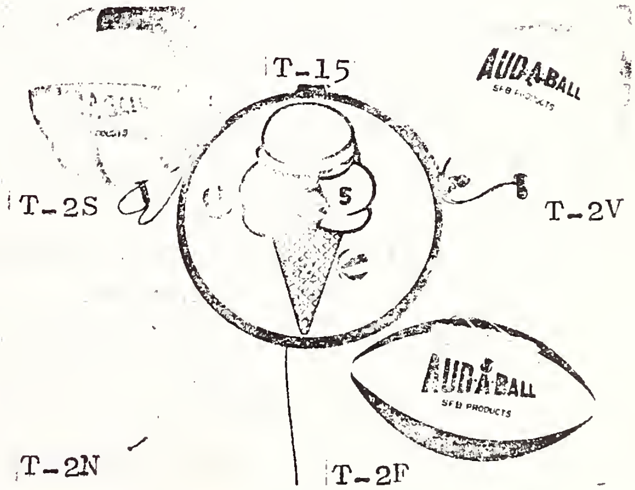
Figure 2

Fig. 2: T-1 Audicator
T-1AW Black/White Detector
Accessory

Note: Audicator B/W has Black/White detector probe built-in and will accept other Audicator accessories.

Sound Source RECREATION EQUIPMENT

T-2F	Aud-a-Ball Football
T-2S	Aud-A-Ball Soccerball
T-2V	Aud-A-Ball Volleyball
T-2N	Aud-A-Nerf
T-L5	Ball Call



These sound source recreation aids provide more than just entertainment--they provide a means for extending the ability to play in a therapeutic, educational, or just for fun setting.

For visually handicapped children and adults, audible balls and targets can be used in games for improving orientation and coordination, for integrated play with sighted peers, and for independent play--at home, school, or summer camp.

For everybody, these audible toys can open new ways of relating to one another and of developing a sense of body security through play with eyes closed or blindfolded. Participants can be put in direct contact with their other senses to develop sensory awareness and to improve their understanding of those with sensory impairment.

Aud-A-Ball

Sound source Football (T-2F), Soccerball (T-2S), Volleyball (T-2V).

These balls are intended both for fun, and for coordination, auditory and orientation training of both the visually and audibly impaired. They are used in independent and group play. In integrated groups (handicapped and non-handicapped) they provide a means of participation on the part of students often excluded from such activity. Aud-A-Balls are being used in homes, schools, and camps throughout the world.

The Aud-A-Ball Soccerball and Football are rugged enough for ordinary kicking, throwing, dropping or hitting. One Aud-A-Ball Soccerball has endured the rigors of college soccer, in games where a visually limited young man participates with his

SIGHTED PEERS. UNDER SUCH ROUGH HANDLING, REPAIRS HAVE BEEN IN ORDER ONCE OR TWICE DURING THE SOCCER SEASON, BUT WITH YOUNGER CHILDREN AND IN LESS RIGOROUS SITUATIONS, REPAIRS HAVE BEEN MINIMAL.

THE AUD-A-BALL VOLLEYBALL IS INTENDED FOR INDOOR PLAY OR FOR USE OUTDOORS IN SITUATIONS WHERE THE HIDE WILL NOT BE SCUFFED. IT CAN BE USED AS A BASKETBALL AND IN A VARIETY OF TOSSING AND ROLLING GAMES. IT IS NOT RECOMMENDED FOR ACTUAL VOLLEYBALL GAMES SINCE ITS WEIGHT (ABOUT HALF A POUND MORE THAN A REGULAR VOLLEYBALL) MAKES IT DIFFICULT TO HANDLE IN THIS BASICALLY AIR-BORNE GAME.

TO ACTIVATE THE SOUND SOURCE:

VOLLEYBALL AND FOOTBALL: PULL THE COLORED STRING WHICH PROTRUDES FROM THE LACING AREA UNTIL YOU HEAR A "CLICK". RELEASE IT AND WAIT. SOUND SHOULD PULSE ON AND OFF ABOUT TWICE EACH SECOND. TO TURN OFF THE SOUND, PULL THE STRING AGAIN.

SOCCERBALL: REMOVE THE SWITCH PIN AND LANYARD. THE SOUND WILL BEGIN, ALTERNATING BETWEEN THE TWO SPEAKERS, AT THE RATE OF ABOUT 3 PULESE PER SECOND. TO DE-ACTIVATE THE SOUND, RETURN THE SWITCH PIN TO THE SWITCH HOLE, BEING SURE:

1) THAT IS IS PUSHED ALL THE WAY IN
2) THAT IT IS NOT POKED INTO THE WRONG HOLE

A NON-RECHARGEABLE 9 VOLT MERCURY BATTERY IS USED IN THE AUD-A-BALL IT IS REPLACED AS FOLLOWS;

> DEFLATE THE BALL PARTLY, SO THAT IS IS EASILY DEPRESSED WITH THE FINGERS BUT NOT "FLAT."

Remove the lacing.

Insert the fingers between the two bladders inside the ball carcass. In the football and soccerball you will find the battery directly under the lacing opening. In the volleyball, the battery is located between bladders opposite the speaker holes, where the sound is emitted.

Carefully unsnap and remove the old battery.

Carefully insert the new battery and snap it into place. Whenever your fingers are inside the ball, be careful not to pull on any wires you may contact or to disturb the position of the bladders. Relace and slowly re-inflate, being careful to maintain roundness by putting pressure on any areas which seem to bulge.

Battery replacement is not difficult, but it does require time--45 minutes to an hour for someone who is used to handling lacing.

SFB Products will replace batteries for the fee indicated on the price list. Fee includes the cost of the new battery. SFB Products also sells a small, inexpensive inflation pump. See price list.

AUD-A-NERF

Sound-source play ball (T-2N).

AUD-A-NERF is a soft, spongy play ball, 7" in diameter, intended for gentle play. It may be tossed or rolled, and dropping it to the ground, even from a considerable height, will not damage it. It weighs 6 to 7 oz. and over 2" of sponge separate the surface from any hard or pointed part of the electronics. It can thus be used with young children quite safely.

AUD-A-NERF IS NOT INTENDED FOR ROUGH PLAY. VIOLENT THROWING, KICKING, OR STAMPING ON THE BALL ARE LIKELY TO BREAK THE DELICATE ELECTRONICS INSIDE.

THE SOUND SOURCE IS ACTIVATED BY PULLING A CORD WHICH EXTENDS OUTSIDE THE BALL. IT IS TURNED OFF BY PULLING THE SAME CORD A SECOND TIME. THE CORD IS FIRMLY ATTACHED INSIDE, BUT NO MORE PRESSURE SHOULD BE PUT ON IT THAN IS NECESSARY TO OPERATE THE SWITCH--FOR EXAMPLE, THIS CORD SHOULD NOT BE USED AS A HANDLE FOR THROWING OR SPINNING THE BALL!

IN NORMAL USE THE BALL SHOULD HOLD UP WELL, PROVIDING MANY HOURS OF ENJOYABLE PLAY.

THE BATTERY (9 VOLT MERCURY) MAY BE REPLACED AS FOLLOWS: SLICE INTO THE CENTER OF THE NERF BALL WITH A RAZOR BLADE OR OTHER SHARP INSTRUMENT, MAKING THE SLIT ABOUT 4" LONG AT THE SURFACE. UNTIE THE KNOTS IN THE SWITCH CORD AND ATTACH A FINE BUT STRONG THREAD OR STRING TO THE END OF IT, OR BE PREPARED TO RETHREAD THE CORD THROUGH THE HOLE BY SOME OTHER MEANS, SUCH AS PUSHING IT THROUGH WITH A SMALL BLADED SCREW DRIVER. REMOVE THE ELECTONICS PACKAGE FROM THE CENTER OF THE BALL. CHANGE BATTERY. REPLACE ELECTRONICS PACKAGE. RETHREAD SWITCH CORD. APPLY RUBBER CEMENT TO BOTH SIDES OF THE INCISION LEAVING 1/8" NEAR THE SURFACE FREE OF GLUE IN ORDER TO PREVENT PUCKERING OF THE SLIT. HOLD SURFACES APART UNTIL DRY, THEN PRESS TOGETHER FIRMLY AND ALLOW BALL TO SIT OVERNIGHT.

NOTE: SFB PRODUCTS WILL INSTALL THE ELECTRONIC PACKAGE FROM A WORN OUT AUD-A-NERF INTO A NEW NERF COVERING, REPLACING THE BATTERY AT THE SAME TIME, FOR A FEE EQUAL TO ABOUT 1/3 OF THE ORIGINAL COST OF THE BALL: SEE SFB PRODUCTS PRICE LIST OF SPECIAL INSTRUMENTS, REJUVENATION FEE T-2NR.

For more active, vigorous play, the SFB Products Aud-a-Ball Soccerball or Football is recommended.

BALL CALL AUDIBLE ART DARTS (T-15).

The complete Ball Call unit consists of the following:

4½ foot square "backdrop" target

13" diameter brightly colored target

6 velcro balls

Sound Source system which emits a short pulse of sound once every 5 or 6 seconds, mounted behind center of round target.

The backdrop should be suspended from a sturdy hook about 6 ft. from the floor. The round target is suspended from the same hook so that it hangs approximately in the center of the backdrop.

The sound source is activated by pulling the string which hangs behind the round target. Pull until it clicks, release, then wait. The first pulse should come in about 5 or 6 seconds.

Players should be positioned far enough from the target to be challenged. Hits in the round target area can be scored at one level, those on the backdrop at a lower level. If more precise scoring is desired, the switch string can be used as follows:

Bring the string up around the bottom of the target and across the center, pulling it just taut. Hold the string at the center of the target with thumb and

FINGER TO MARK THE SPOT--TIE A KNOT AT THIS SPOT. HOLD THIS KNOT AT THE CENTER AND STRETCH THE STRING TO THE EDGE. MARK A SPOT ON THE STRING HALF WAY BETWEEN CENTER AND EDGE AND PLACE ANOTHER KNOT HERE. BY HOLDING THE FIRST KNOT AT THE CENTER OF THE TARGET AND THE OTHER KNOT IN THE OTHER HAND AND ROTATING THE SECOND KNOT AROUND THE FIRST, TWO SCORING AREAS CAN BE DEFINED ON THE ROUND TARGET. THIS THEN PROVIDES A TOTAL OF THREE SCORING AREAS: INNER CIRCLE, OUTER CIRCLE, AND BACKDROP.

BATTERY REPLACEMENT IS EASY: SIMPLY SNAP OUT THE OLD BATTERY AND SNAP IN A NEW ONE. THE BATTERY IS LOCATED ON THE BACK OF THE ROUND TARGET NEAR THE BOTTOM.

ALL SFB PRODUCTS SOUND SOURCE RECREATION EQUIPMENT CARRIES A ONE-YEAR WARRANTY, EXCLUDING BATTERY WEAR OR DAMAGE FROM IMPROPER HANDLING.

SCIENCE FOR THE BLIND PRODUCTS
221 ROCK HILL ROAD
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Patty Overholt

Ms. Overholt is a Communicative Skills instructor at the Vision Center, and has worked there three years. She also has three years of experience at the Ohio State School for the Blind, with their rehabilitation program. She received a B.A. in English at The Ohio State University.

THE OPTACON

INTRODUCTION

THE OPTACON IS A RELATIVELY NEW DEVICE. IT FIRST CAME OFF THE MARKET IN 1971; BY MAY, 1975, THERE WERE 1400 OPTACONS IN USE AROUND THE WORLD.

THE DEVELOPMENT OF THIS EQUIPMENT HAS OPENED A NEW WORLD TO THE BLIND. BY USING ADVANCED ELECTRONICS, THE OPTACON CONVERTS VISUAL FORMS OF THE LETTERS INTO TACTUAL FORMS WHICH CAN BE FELT AND IDENTIFIED WITH ONE FINGER. THE OPTACON PROVIDES IMMEDIATE ACCESS TO PRINT MATERIAL, AND THE INTERMEDIATE STEP OF TRANSCRIPTION -- EITHER ON TAPE, IN BRAILLE OR THROUGH READER SERVICE -- IS ELIMINATED. THE OPTACON WILL NEVER REPLACE THE OTHER FORMS OF COMMUNICATION; ITS PRIMARY ADVANTAGE IS IMMEDIATE ACCESSIBILITY, NOT SPEED. BRAILLE WILL REMAIN IMPORTANT IN THE FUTURE, BECAUSE IT CAN BE WRITTEN BY A BLIND PERSON, WHEREAS THE OPTACON DOES NOT PROVIDE A WAY TO WRITE NOTES. OF COURSE, THE OPTACON IS MUCH MORE EXPENSIVE THAN OTHER COMMUNICATIONS EQUIPMENT FOR THE BLIND. IN 1971, AN OPTACON COST $5,000; IT PRESENTLY COSTS JUST UNDER $3,000.

IN TERMS OF THE OPTACON'S FUNCTIONING, IT WILL ALLOW A BLIND PERSON IMMEDIATE ACCESS NOT ONLY TO BOOKS AND MAGAZINES BUT ALSO CORRESPONDENCE, MEMOS, LABELS, DIRECTORIES, CHARTS, ELECTRIC

CALCULATOR DISPLAYS, COMPUTER VISUAL DISPLAYS, NEWSPAPERS, DIRECTIONS ON BOX MIXES, LABELS ON CANNED GOODS, ETC. ITS USE HAS ALREADY HAD A DRAMATIC IMPACT ON THE EDUCATIONAL AND VOCATIONAL ACTIVITIES OF THE BLIND. STATE DEPARTMENTS OF EDUCATION, LOCAL SCHOOL BOARDS AND PRIVATE SCHOOLS HAVE INITIATED OPTACON TRAINING PROGRAMS. COMMUNITY COLLEGES AND UNIVERSITIES HAVE OPTACONS AND/OR TRAINING AVAILABLE TO THEIR VISUALLY HANDICAPPED STUDENTS. SOME UNIVERSITIES HAVE INCORPORATED CLASSES IN THE SPECIAL EDUCATION DEPARTMENT FOR TRAINING PEOPLE TO TEACH THE USE OF THE OPTACON. VOCATIONALLY, THE OPTACON HAS HELPED BLIND PEOPLE TO OBTAIN JOBS, TO ADVANCE ON THE JOB, AND TO ENTER PROFESSIONS PREVIOUSLY CLOSED TO THEM. BLIND ADMINISTRATORS, LAWYERS, TEACHERS, COMPUTER PROGRAMMERS, SCIENTISTS, SOCIAL WORKERS AND SECRETARIES ARE USING THE OPTACON.

DEPARTMENT OF REHABILITATION AND COMMISSIONS FOR THE BLIND ARE PURCHASING OPTACONS AND SUPPORTING TRAINING FACILITIES. TRAINING PROGRAMS IN OHIO EXIST AT THE VISION CENTER IN COLUMBUS, OHIO AND THE CLEVELAND SOCIETY FOR THE BLIND. OHIO STATE UNIVERSITY OWNS SIX OPTACONS FOR THEIR STUDENTS' USE AND HAS BEEN INSTRUMENTAL IN TRAINING SOME OF THOSE STUDENTS.

DEMONSTRATION OF THE OPTACON WITH VISUAL DISPLAY

THE OPTACON WILL BE DEMONSTRATED BY USE OF A VISUAL DISPLAY. THE VISUAL DISPLAY CAN BE PLUGGED INTO THE OPTACON SO THAT A SIGHTED PERSON CAN VISUALLY SEE VIA A SERIES OF RED LIGHTS EXACTLY WHAT THE BLIND PERSON IS FEELING AS VIBRATING RODS. THE OPTACON ITSELF CONSISTS OF A CAMERA WHICH SCANS THE MATERIAL; THE CAMERA HAS 144 PHOTO CELLS WHICH ARE LIGHT SENSITIVE. THE ELECTRONIC CIRCUITRY AND THE ARRAY ARE LOCATED IN A SEPARATE PIECE OF EQUIPMENT. ONE FINGER OF THE LEFT HAND IS PLACED IN THE ARRAY, WHICH

IS APPROXIMATELY ONE-AND-A-HALF INCHES LONG AND A HALF INCH WIDE. AS THE RIGHT HAND SCANS THE MATERIAL, THE LIGHT SENSITIVE PHOTO CELLS STIMULATE THE VIBRATING RODS IN THE ARRAY. THE EXACT IMAGE WHICH THE PHOTO CELLS PICK UP IS TRANSMITTED TO THE FINGER IN THIS MANNER.

THERE ARE SEVERAL ADJUSTMENTS WHICH CAN BE MADE ON THE OPTACON. THE CAMERA ITSELF HAS A ZOOM LENS WHICH CAN MAKE THE LETTER BIGGER OR SMALLER; NEXT TO THE ARRAY IS A CONTROL PANEL WHICH HAS AN ON-OFF SWITCH, A THRESHOLD KNOB AND AN INTENSITY KNOB. THE THRESHOLD KNOB MAKES THE LETTER APPEAR THICKER OR THINNER BY INCREASING THE NUMBER OF VIBRATING PINS. THE INTENSITY KNOB CONTROLS THE DEGREE TO WHICH THE PINS ARE VIBRATING AGAINST THE FINGER.

DURING THE DEMONSTRATION OF THE OPTACON, THE STAGE ONE TRAINING MANUAL, ISSUED BY THE TELESENSORY SYSTEMS, INC. WAS USED. LESSON 2, WHICH BEGINS THE LESSONS ON UPPER CASE LETTERS, WAS USED; TO SHOW THE WORKSHOP HOW QUICKLY SENTENCES COULD BE READ, MATERIAL NEAR THE END OF THE MANUAL, WHICH DEALT WITH SPEED-BUILDING, WAS SHOWN.

TRAINING PROGRAMS

MOST TRAINING PROGRAMS RUN ALL DAY FOR APPROXIMATELY TWO WEEKS, INVOLVING ABOUT 60 HOURS OF INTENSIVE TRAINING. IT DOES NOT MATTER WHETHER THE PERSON HAS HAD SIGHT AND KNOWS THE PRINT LETTERS OR IS CONGENITALLY BLIND. SKILLS THAT NEED TO BE TAUGHT DURING THIS TIME ARE RECOGNITION OF THE TACTILE LETTER, MOVING THE CAMERA STRAIGHT ACROSS THE LINE, MAKING OPTACON ADJUSTMENTS FROM VARIOUS PRINT STYLES, BUILDING SPEED, ORIENTATION TO PRINT FORMAT AND A CHANCE TO VIEW THE MANY TYPES OF MATERIAL MENTIONED EARLIER. USUALLY, PEOPLE LEAVE TRAINING READING APPROXIMATELY TEN TO FIFTEEN

WORDS PER MINUTE; MOST LIKELY, THEY WILL INCREASE THEIR SPEED OVER A YEAR'S TIME TO BETWEEN THIRTY AND FIFTY WORDS PER MINUTE. AN AVERAGE BRAILLE READER READS FROM ONE HUNDRED TO 120 WORDS PER MINUTES, THUS, IT CAN BE SEEN THAT SPEED IS NOT AN ADVANTAGE OF THE OPTACON -- ONLY ACCESSIBILITY TO PRINT MATERIAL.

CHILDREN AND THE OPTACON

SEVERAL PROGRAMS HAVE BEEN INITIATED TO TEACH CHILDREN IN THE PRIMARY GRADES TO USE THE OPTACON, AND MOST OF THE CHILDREN HAVE DONE EXTREMELY WELL. IN PENNSYLVANIA ALONE, MORE THAN 100 OPTACONS ARE IN USE IN SCHOOLS, AND APPROXIMATELY 20 SCHOOL DISTRICTS IN CALIFORNIA PROVIDE OPTACON TRAINING. A TRAINING PROGRAM FOR CHILDREN IN MEDFORD, MASSACHUSETTS, FOR CHILDREN AGES 1-6, HAS PROVIDED US WITH INTERESTING STATISTICS. AFTER 27 HOURS OF TRAINING, THE AVERAGE SPEED OF THE SIX STUDENTS WAS 13.5 WORDS PER MINUTE; BY JANUARY, ABOUT NINE MONTHS LATER, ONE STUDENT WAS READING 30 WORDS PER MINUTE. THE SOONER A CHILD RECEIVES THIS TRAINING, THE SOONER HE CAN PUT IT INTO PRACTICAL USE. A HIGH SCHOOL STUDENT IN HOUSTON, TEXAS, RECENTLY TOOK HIS COLLEGE BOARD EXAMS. NO BRAILLED VERSION OF THE FRENCH EXAM WAS AVAILABLE, SO HE USED AN OPTACON TO TAKE THE TEST. THIS INDIVIDUAL SCORED A PERFECT 800.

HANDWRITING

VIEWING A LETTER TACTUALLY WITH THE OPTACON IS AN EXCELLENT WAY OF THE BLIND PERSON TO UNDERSTAND PRINT MORE CLEARLY. IT HAS BEEN SHOWN THAT STUDENTS CAN LEARN TO PRINT THROUGH THIS METHOD.

T.S.I. Information

The company which has made all this possible is Telesensory Stystems, Inc. They did many years of research before going into production in conjunction with Stanford University. They developed the training materials and helped set up the training centers around the world. Their address is 1889 Page Mill Road, Palo Alto, California 94304.

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